



TOGIOLA T.A. TULAFONO  
*Governor*

AITOFELE T. F. SUNIA  
*Lt. Governor*

**AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY**

**P.O. Box PPA**

**Pago Pago, American Samoa 96799**

TOAFA F.T. VALAGAE PH.D.  
*Director*

Phone: (684) 633-2304  
Admin. Fax: (684) 633-5715  
Programs Fax: (684) 633-5801

20 February 2008

Brett Butler, General Manager  
StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, American Samoa 96799

**RE: Approval of Zone of Mixing for Dissolved Oxygen, Turbidity, and Light Penetration;  
NPDES Permit No. AS0000019**

Dear Mr. Butler:

We have received and reviewed your request for approval of Zones of Mixing (ZOMs) for dissolved oxygen, turbidity, and light penetration, as submitted by your authorized representative (gdc, 11 February 2008) for the above referenced NPDES permit.

We have determined that your request meets policy and criteria in accordance with §24.0207 (a) and §24.0207 (b) (1-10) of the American Samoa Water Quality Standards (ASWQS).

The discharge is found to be consistent with the protected uses for Pago Pago Harbor as stated in the ASWQS and sections 301, 302, 303, 306, and 307 of the Clean Water Act, and ASEPA has determined that there is reasonable assurance that the discharge will not cause violations of the ASWQS. Approval is hereby given for the ZOMs for dissolved oxygen, turbidity, and light penetration provided that all conditions of the NPDES permit and the ASWQS (except as authorized within ZOMs) continue to be met.

If you have any questions regarding this approval, please feel free to contact me or my staff at (684) 633-2304.

Sincerely

  
Fanuatele Dr. T. Vaiaga'e, Director

cc: Karen Glatzel, gdc  
Carl Goldstein, USEPA  
Sara Greiner, USEPA



## COASTAL ENVIRONMENTAL ANALYSTS

11 February 2008

Fanuatele Dr. T. Vaiaga'e, Director  
American Samoa Environmental Protection Agency  
Utulei Office Building  
P.O. Box PPA  
Pago Pago, AS 96799

**Re: Request for revision of water quality certification and the definition of mixing zones for dissolved oxygen, turbidity, and light penetration for the Joint Cannery Outfall**

StarKist Samoa and COS Samoa Packing (the canneries) discharge treated process wastewater through a common joint cannery outfall (JCO) and high-rate diffuser into the outer portion of Pago Pago Harbor. Seventeen years of monitoring have indicated no environmental degradation resulting from the discharge. The canneries submitted timely applications for the renewal of their respective National Pollution Discharge Elimination System (NPDES) permits (AS0000019 and AS0000027) to the U.S. Environmental Protection Agency (USEPA) in July 2005.

On 28 June 2007 the canneries requested water quality certification (WQC) and the definition of mixing zones from the American Samoa Environmental Protection Agency (ASEPA). The WQC and mixing zone definitions were granted on 12 July 2007. On 29 October 2007, after discussions with USEPA and ASEPA, the canneries requested a modification of the WQC and the definition of a mixing zone to account for chronic levels of ammonia. This request was granted on 18 December 2007.

On 9 January 2008 the USEPA published for public comment Draft NPDES permits and the canneries provided comments on those Draft Permits on 30 January 2008, within the allowable comment period. In the comment letters the canneries requested that the narrative receiving water limitations for dissolved oxygen (DO) and turbidity be specified as in the existing permits: specifically that the water quality standard is to be achieved at the edge of the zone of initial dilution (ZID). In addition, the same language was requested for the limitation on the new narrative limitation on light penetration. The canneries also requested a similar change in permit language for temperature, to reflect language in the existing permit. However, after discussions with USEPA the canneries do not believe this is necessary for temperature because the effluent temperature limitation is based on USEPA's previous finding that cooling of the wastewater through the pipeline will result in compliance at the discharge point in the receiving water.

Discussions with USEPA indicate that to maintain the language in the previous permit, ASEPA must include in the WQC provisions for mixing zones for these parameters. Although this was not done in the past, and therefore was not included in the previous request for WQC by the canneries, it is now a current requirement of USEPA. Therefore, the canneries request a modification of the previously approved WQC and mixing zones for DO, turbidity, and light

P.O. BOX 1238 • 216 DRIFTWOOD LANE • TRINIDAD, CA • 95570  
PHONE: 707-677-0123 • FAX: 707-677-9210  
EMAIL: GLATZELDACOSTA@SUDDENLINK.NET

penetration within the defined zone of initial dilution (critical initial dilution [CID]= 313:1 as applied by USEPA and ASEPA described in previous mixing zone applications). The following information demonstrates the assimilative capacity of the receiving water to support the requested zones of mixing:

**Dissolved oxygen:** There are limited direct measurements of effluent DO; however, an effluent DO of 0.0 mg/l is the reasonably expected critical condition. The water quality criterion is 5.0 mg/l. The ambient background DO required to maintain compliance at the edge of the ZID, for a CID of 313:1, is calculated as:

$$C_A = \frac{CID \cdot C_S - C_E}{CID - 1} = \frac{313 \times 5.0 - 0.0}{312} = 5.016 \text{ mg/l}$$

The ambient DO measured during the Harbor water quality monitoring events is consistently above 5 mg/l. The required excess DO required for a mixing zone (0.016 mg/l) is an order of magnitude smaller than normally accepted measurement accuracy. (It is noted that the water quality standards also require DO levels to be above 70 % of saturation, and this condition is also met based on the typical water temperatures measured in the receiving water.) Based on the above analysis, there is sufficient capacity for a mixing zone for DO. This is supported by previous monitoring, which has shown no effects of the discharge on the receiving water.

**Turbidity:** There are no direct measurements of effluent turbidity. Receiving water turbidity has been measured in various ways during water quality monitoring. *In situ* sensors are not accurate at the low turbidities in the receiving water but are consistently lower than the water quality criterion of 0.75 NTU. Analysis of samples shipped to mainland laboratories have been consistently lower, and typically an order of magnitude lower, than the water quality criterion. However, these samples are not received and analyzed by the laboratory within the accepted holding time. During the last water quality monitoring event, samples were collected and analyzed using a bench top instrument calibrated for low range turbidities with the following results:

Station	5 (Reference)			16 (Farfield)			18 (Farfield)		
Depth (ft)	3	60	120	3	60	120	3	60	120
Turbidity (NTU)	0.1	0.1	ND	0.11	0.39	0.14	0.23	0.24	0.25
ND = below instrument detection level									

Clearly there is assimilative capacity in the receiving water. The maximum allowable effluent turbidity, using the highest value listed above (0.39 NTU) would be:

$$C_E = CID(C_S - C_A) + C_A = 313(0.75 - 0.39) + 0.39 = 113 \text{ NTU}$$

Using the average value from the reference station (Station 5), which follows the general process applied by USEPA in developing permit effluent limitations, the maximum allowable effluent turbidity is:

$$C_E = CID(C_S - C_A) + C_A = 313(0.75 - 0.1) + 0.39 = 204 \text{ NTU}$$

As mentioned above there are no direct measurements of turbidity in the effluent, but visual observation of the combined effluent collected for bioassay testing clearly indicates the effluent turbidity is below 100 NTU. In addition, the routine monitoring in the vicinity of the discharge has not shown any effect of the plume even within the ZID.

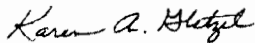
**Light Penetration:** Light penetration is affected by turbidity and suspended material in the water column. As described above, compliance with the turbidity standard is expected at the edge of the ZID. Effluent limitations are included in both permits for total suspended solids and nutrients (thus controlling phytoplankton growth). Therefore, light penetration is expected to meet the criterion at the edge of the ZID. Previous monitoring has demonstrated that light penetration is in compliance with the water quality standards.

Based on the discussion above, we request that ASEPA modify the WQC to allow mixing zones so that the new NPDES permits may provide for meeting the receiving water quality criteria for DO, turbidity, and light penetration at the edge of the ZID. This is consistent with the existing permits and does not provide any relaxation of existing permit conditions.

Your office has been notified by both canneries that **gdc** is authorized to act in their behalf in the request for water quality certification and definition of the mixing zones listed above. If you have any questions or wish to discuss this request please contact **gdc** or contact the canneries directly.

We appreciate your time and attention to this matter,

Sincerely,



Karen A. Glatzel

Steven L. Costa

Copy to: Carl Goldstein/USEPA; Peter Peshut/ASEPA; Edna Buchan/ASEPA  
Tim Ruby/StarKist; Jim Cox/ COS Samoa Packing;  
Joe Carney/StarKist; Samuel Augspurger /COS Samoa Packing



Togiola T.A. Tulafono  
Governor

Aitofele T.F. Sunia  
Lt. Governor

## DEPARTMENT OF COMMERCE

**American Samoa Government**  
Pago Pago, American Samoa 96799  
Tel: (684) 633-5155  
Fax: (684) 633-4195

January 16, 2008



Falesau Eliu Paopao,  
Director

Lelei Peau  
Deputy Director

**DOC:**  
**Serial:171**

### AMERICAN SAMOA COASTAL MANAGEMENT PROGRAM FEDERAL CONSISTENCY CERTIFICATION

#### **Starkist Samoa, Inc**

*NPDES Permit Renewal for Treated Wasterwater Discharge to Pago Pago Harbor*

Under the federal consistency provisions of the Coastal Zone Management Act of 1972, as amended, all federally licensed or permitted activities affecting the coastal zone must be conducted in a manner consistent with the states' (territories') approved management program (subsection 307 © (3)(A). The American Samoa Coastal Management Program (ASCMP) was approved in 1980 (EO 380, and amended 12-88), and later enacted by law in August of 1991. Consequently, any non-federal applicant applying for a federal permit is required to furnish a certification that the proposed activity will comply with the territory's coastal management program. No USACOE or other federal permits will be issued until ASCMP has issued a Federal Consistency Determination.

This is to certify that the proposed project and activities referenced above complies with the goals and policies of the ASCMP and shall be conducted in a manner consistent with this program.

This certification should remain in your project documents file.

Sincerely,

GENEVIEVE BRIGHOUSE,  
ASCMP Manager

cc: Faleseu Eliu Paopao., Director  
PNRS Board Distribution List



Togiola T.A. Tulafono  
Governor

Aitofele T.F. Sunia  
Lt. Governor

## DEPARTMENT OF COMMERCE

### American Samoa Government

Pago Pago, American Samoa 96799

Tel: (684) 633-5155

Fax: (684) 633-4195

January 16, 2008



Falesau Eliu Paopao.  
Director

Lelei Peau  
Deputy Director

**DOC:**  
**Serial:170**

### AMERICAN SAMOA COASTAL MANAGEMENT PROGRAM FEDERAL CONSISTENCY CERTIFICATION

#### **COS Samoa Packing Company, Inc**

*NPDES Permit Renewal for Treated Wasterwater Discharge to Pago Pago Harbor*

Under the federal consistency provisions of the Coastal Zone Management Act of 1972, as amended, all federally licensed or permitted activities affecting the coastal zone must be conducted in a manner consistent with the states' (territories') approved management program (subsection 307 © (3)(A). The American Samoa Coastal Management Program (ASCMP) was approved in 1980 (EO 380, and amended 12-88), and later enacted by law in August of 1991. Consequently, any non-federal applicant applying for a federal permit is required to furnish a certification that the proposed activity will comply with the territory's coastal management program. No USACOE or other federal permits will be issued until ASCMP has issued a Federal Consistency Determination.

This is to certify that the proposed project and activities referenced above complies with the goals and policies of the ASCMP and shall be conducted in a manner consistent with this program.

This certification should remain in your project documents file.

Sincerely,

GENEVIEVE BRIGHOUSE,  
ASCMP Manager

cc: Faleseu Eliu Paopao., Director  
PNRS Board Distribution List



TOUJIOIA T.A. TULAFONO  
Governor

AILOPELE T. F. SUNIA  
Lt. Governor

**AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY**

**P.O. Box PPA**

**Pago Pago, American Samoa 96799**

TOAFA F.T. VALAGAN PH.D.  
Director

Phone: (684) 633-2304  
Admin. Fax: (684) 633-5715  
Programs Fax: (684) 633-5801

18 December 2007

Brett Butler, General Manager  
Starkist Samoa, Inc.  
P.O. Box 368  
Pago Pago, American Samoa 96799

**Re: Approval of Zone of Mixing for Ammonia; NPDES Permit No. AS0000019**

Dear Mr. Butler:

We have received and reviewed your request for approval of a Zone of Mixing (ZOM) for ammonia, as submitted by your authorized representative (gdc, 29 October 2007) for the above referenced NPDES permit.

We have determined that your request meets policy and criteria in accordance with §24.0207 (a) and §24.0207 (b) (1-10) of the American Samoa Water Quality Standards (ASWQS).

The discharge is found to be consistent with the protected uses for Pago Pago Harbor as stated in the ASWQS and sections 301, 302, 303, 306, and 307 of the Clean Water Act, and ASEPA has determined that there is reasonable assurance that the discharge will not cause violations of the ASWQS. Approval is hereby given for the ZOM for ammonia provided that all conditions of the NPDES permit and the ASWQS (except as authorized within ZOM) continue to be met.

If you have any questions regarding this approval, please feel free to contact me, or Peter Peshut of my staff at (684) 633-2304.

Sincerely,

Fanuatele Dr. T. Valaga'e, Director

cc: Steven Costa, gdc  
Carl Goldstein, USEPA  
Sara Greiner, USEPA

TOGIOLA T.A. TULAFONO  
*Governor*

AITOFELE T. F. SUNIA  
*Lt. Governor*

**AMERICAN SAMOA ENVIRONMENTAL PROTECTION AGENCY**

**P.O. Box PPA**

**Pago Pago, American Samoa 96799**

TOAFA F.T. VALAGAE PH.D.  
*Director*

Phone: (684) 633-2304  
Admin. Fax: (684) 633-5715  
Programs Fax: (684) 633-5801

12 July 2007

Brett Butler, General Manager  
Starkist Samoa, Inc.  
P.O. Box 368  
Pago Pago, American Samoa 96799

**Re: Water Quality Certification and Authorization of Zone of Mixing; NPDES Permit  
No. AS0000019**

Dear Mr. Butler:

We have received and reviewed your request for a Water Quality Certification (WQC) and definition/authorization for a Zone of Mixing (ZOM) (as prepared by **gdc**, June 2007) for a National Pollution Discharge Elimination System (NPDES) permit for the discharge of treated fish processing wastewater through a joint-cannery outfall, to Pago Pago Harbor, American Samoa.

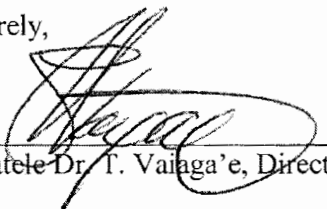
The existing NPDES permit and previous WQC are based on a ZOM for total nitrogen, total phosphorus, ammonia, copper, and zinc. As presented in your submission, there have been no identifiable changes in the discharge or receiving water characteristics since issuance of the permit and the establishment of the current mixing zones. Additionally, data as presented shows that the ZOM as defined is applicable for mercury in order to meet ASWQS for the receiving water.

The discharge is found to be consistent with the protected uses for Pago Pago Harbor as stated in the American Samoa Water Quality Standards (ASWQS) and sections 301, 302, 303, 306, and 307 of the Clean Water Act, and ASEPA has determined that there is reasonable assurance that the discharge will not cause violations of the ASWQS. Certification is hereby given for this activity, and authorization of the Zone of Mixing is hereby granted, provided that all conditions of the NPDES permit and the ASWQS (except as authorized within ZOM) continue to be met.



If you have any questions on this certification and authorization, please feel free to contact me or Peter Peshut of my staff at (684) 633-2304.

Sincerely,



Fanuatele Dr. T. Vaiana'e, Director

cc: Steven Costa, gdc  
Carl Goldstein, USEPA

To: Carl Goldstein, USEPA

From: Steve Costa, CH2M HILL

Copy: Peter Peshut, ASEPA

StarKist Samoa (Brett Butler, Tim Ruby, Joe Carney, Theresa Carney)

COS Samoa Packing (Herman Gebauer, Jim Cox, Brett Ransby)

Date: 31 January 2006

---

## **Requested Changes to Permit Required Sampling for**

**StarKist Samoa NPDES Permit No. AS0000019**

**COS Samoa Packing NPDES Permit No. AS0000027**

StarKist Samoa and COS Samoa Packing are requesting that USEPA allow a modified sampling program for effluent metals sampling and the Receiving Water Monitoring Program during the period before renewal permits are issued. The requested revisions, and justification for such revisions, have been previously discussed with USEPA and ASEPA. These revisions were also discussed in the transmittal provided with the permit renewal applications for each of the canneries. The proposed revisions will not compromise the ability of USEPA and ASEPA to assess compliance with permit limitations and the American Samoa Water Quality Standards (ASWQS)

### **Permit Section A. Effluent Limits and Monitoring Requirements**

The canneries propose to replace the once per month sampling frequency and the composite sample for copper and zinc with a semiannual sampling frequency with 8 grab samples spaced three hours apart for copper, zinc, and mercury. The samples will be collected simultaneously with the individual grab samples collected for the semiannual toxicity testing. All other requirements of Section A will remain the same.

The canneries have been collecting monthly samples for copper and zinc for the past five years. There is a sufficient amount of data to characterize the long term concentrations of these parameters in the effluent. Analysis of grab samples over 24-hour periods will provide information on the short term variability.

Mercury has been detected in the effluent of both canneries at concentrations above the proposed new ASWQS during recent priority pollutant scans. Additional information on mercury will be required to define a mixing zone. Sampling concurrently with the copper and zinc sampling is convenient and cost effective. Without mercury sampling there will be no additional effluent mercury data until a new permit is issued.

### **Permit Section E. Receiving Water Quality Monitoring Program**

Receiving water quality monitoring over the past five years, and even prior to that time, has provided sufficient data to characterize and describe the water quality of the receiving water body (Pago Pago Harbor). During that time no effect of the canneries discharge has been observed, and water quality criteria and standards for the measured parameters have generally been achieved. On the rare occasions when water quality standards were not met

the cause was not attributable to the canneries' discharge and was attributed to natural causes. Future monitoring can be significantly reduced without compromising the evaluation of permit limitations or the ASWQS.

The canneries request a reduction in number of monitoring stations. It is proposed that Stations 11, 15, and 18, as shown in Table 1, not be sampled for any parameters. It is noted that Station 11 is well away from the discharge and the approved mixing zones, and is generally for informational purposes only. Stations 15 and 18 are at the edge of the nutrient mixing zone. However, the permit limitations at the edge of the mixing zone are consistently met and the TN and TP concentrations at these stations are typically indistinguishable from background. Compliance can be demonstrated by TN and TP measurements at Stations 8 and 8A, which are both well within the nutrient mixing zone. If ASWQS for TN and TP are met within the mixing zone, the permit limitations at the edge of the mixing zone are undoubtedly achieved, and Stations 15 and 18 are redundant.

Table 1. Requested Reduction in Sampling Stations			
Existing Monitoring Stations	Vicinity	Location	Proposed Monitoring Stations
5	Transition Zone	Harbor Mouth	5
8	Middle Harbor	Inside ZOM	8
8A	Middle Harbor	Inside ZOM	8A
11	Inner Harbor	East End	
13	Inner Harbor	West End	13
14	Middle Harbor	Diffuser	14
15	Middle Harbor	ZOM Edge	
16	Middle Harbor	ZOM Edge	16
18	Outer Harbor	ZOM Edge	

The canneries further request that the number of parameters monitored at the remaining stations be reduced as shown in Table 2. The the justifications for individual parameters are as follows:

- The receiving water is full strength sea water at all stations with only brief and minor depressions in salinity in near surface water after heavy rain. The measurement of pH provides little useful information because the buffering action of seawater controls the pH within a narrow range. Five years of data have shown that pH is typically consistent with that of seawater and does not vary by more than 0.2 units from the long term average. The accuracy of the measurement is on the same order as the observed variation.
- Turbidity, light penetration (by Secchi depth), suspended solids, and, to a large extent, chlorophyll-a, are all used to characterize water clarity, which is important for coral reef health. The canneries are proposing to replace these measurements with a vertical profile of photosynthetically available radiation (PAR). Such a measurement would provide direct information on light extinction (water clarity).

The data would be collected throughout the entire water column, which is a distinct improvement over existing methods. Finally, such a measurement is directly applicable to assessing the light penetration criterion in the ASWQS, which is not achieved using any of the other parameters.

- Total nitrogen (TN) and total phosphorous (TP) monitoring at stations 5, 13, and 14 does not add significantly to the assessment of the effect of the canneries' discharge and are not necessary to evaluate compliance with permit limitations. The past five years of data clearly indicate overall compliance, and continued monitoring at only the three stations requested (8, 8A, and 18) is sufficient to assess compliance.
- Monitoring for lead and arsenic has been for informational purposes and these parameters do not have permit limitations. The past five years of data indicate compliance with ASWQS. Additional monitoring of these parameters is not required for permit monitoring.

With the exceptions noted above, all other requirements of Section E will remain the same. It is noted that sampling will be continued at three depths at each of the stations listed above.

Parameter	Measurement Type	Existing Parameters Measured at Stations						Proposed Parameters Measured at Stations					
		5	8	8A	13	14	16	5	8	8A	13	14	16
Temperature	Vertical Profile	X	X	X	X	X	X	X	X	X	X	X	X
Salinity	Vertical Profile	X	X	X	X	X	X	X	X	X	X	X	X
pH	Vertical Profile	X	X	X	X	X	X						
Dissolved Oxygen	Vertical Profile	X	X	X	X	X	X	X	X	X	X	X	X
Turbidity	Vertical Profile	X	X	X	X	X	X						
Turbidity	Grab					X	X						
Light Penetration	Direct Reading	X	X	X	X	X	X						
Light Extinction	PAR Profile							X	X	X	X	X	X
Suspended Solids	Grab	X	X	X	X	X	X						
Chlorophyll-a	Grab	X	X	X	X	X	X						
Total Ammonia	Grab	X	X	X	X	X	X	X	X	X	X	X	X
Total Nitrogen	Grab	X	X	X	X	X	X		X	X			X
Total Phosphorous	Grab	X	X	X	X	X	X		X	X			X
Copper	Grab	X	X	X	X	X		X	X	X	X	X	X
Zinc	Grab	X	X	X	X	X		X	X	X	X	X	X
Lead	Grab	X			X	X							
Mercury	Grab	X			X	X		X	X	X	X	X	X
Arsenic	Grab	X			X	X							



**DEL MONTE FOODS**  
**STARKIST BRANDS**

**Brett B. Butler**  
General Manager

P.O. Box 368  
Pago Pago, American Samoa 96799  
684-644-1835  
684-644-2440 fax 684-258-3280 cell  
brett.butler@delmonte.com



**DEL MONTE FOODS**

**Joe Carney**  
Department Head  
Utilities/Stockroom/Environment

P.O. Box 368  
Pago Pago, American Samoa 96799  
684-644-2860  
684-644-1658 fax 684-258-6964 cell  
joe.carney@delmonte.com

*Nourishing Families.  
Enriching Lives.  
Every Day.*



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**NPDES PERMIT NO. AS0000019**

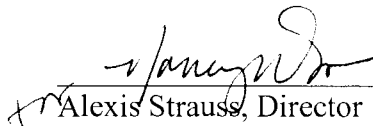
In compliance with the provisions of the Clean Water Act ("CWA") (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

<b>Discharger Name</b>	StarKist Samoa, Inc.
<b>Discharger Address</b>	P.O. Box 368
	Pago Pago, Tutuila
	American Samoa 96799
<b>Facility Name</b>	StarKist Samoa, Inc.
<b>Facility Address</b>	Atu'u, Maoputasi
	American Samoa 96799
<b>Facility Rating</b>	Major

<b>Outfall Number</b>	<b>General Type of Waste Discharged</b>	<b>Outfall Latitude</b>	<b>Outfall Longitude</b>	<b>Receiving Water</b>
001	Industrial Wastewater	S 14°16.824'	W 170°40.133'	Pago Pago Harbor

<b>This permit was issued on:</b>	February 28, 2008.
<b>This permit shall become effective on:</b>	April 1, 2008.
<b>This permit shall expire at midnight on:</b>	March 31, 2013.
<b>In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.</b>	

Signed this 28<sup>th</sup> day of February, 2008, for the Regional Administrator.

  
Alexis Strauss, Director  
Water Division

## **TABLE OF CONTENTS**

PART I - EFFLUENT LIMITATIONS .....	3
PART II - MONITORING AND REPORTING REQUIREMENTS .....	5
A. Effluent Monitoring and Reporting .....	5
1. Effluent Sampling .....	5
2. Effluent Analysis .....	5
3. Effluent Quality Reporting .....	6
4. Quality Assurance .....	7
B. Priority Toxic Pollutants Scan .....	8
C. Outfall Monitoring and Reporting .....	8
D. Twenty-four Hour Reporting of Noncompliance .....	9
PART III - REOPENER PROVISIONS .....	10
PART IV - STANDARD CONDITIONS .....	10
PART V - SPECIAL CONDITIONS .....	10
A. Best Management Practices and Pollution Prevention .....	10
1. Pollution Prevention Program .....	10
2. Pollutant Minimization Plan .....	10
B. Receiving Water Monitoring Program .....	11
1. Receiving Water Monitoring .....	11
2. Receiving Water Monitoring Reporting .....	12
C. Nutrient Loading and Assimilative Capacity Assessment .....	12
1. Nutrient Assessment .....	12
iii. A list of the projected outputs (e.g., dilution factors) from the models. ....	13
2. Nutrient Assessment Reporting .....	13
D. Chronic Toxicity Special Study .....	14
1. Chronic Toxicity Testing and Range-Finding Tests .....	14
2. Quality Assurance for Chronic Toxicity .....	16
3. Reporting of Chronic Toxicity Special Study Results .....	17
4. TRE Workplan for Chronic Toxicity .....	17
5. Accelerated Toxicity Testing and TRE/TIE Process for Chronic Toxicity .....	17
PART VI - DEFINITIONS .....	19
PART VII - REFERENCES .....	21
PART VIII - ATTACHMENT .....	22

## **PART I - EFFLUENT LIMITATIONS**

- A. During the period beginning on the effective date of this permit and ending on the expiration date of this permit, StarKist Samoa, Inc. (hereinafter, the “permittee”) is authorized to discharge industrial storm water and wastewater from its facility from Discharge Outfall Number 001 to Pago Pago Harbor in American Samoa. Such discharge shall be limited and monitored by the permittee as specified in Table 1. The permittee shall maintain compliance with all effluent limitations specified in Table 1 and requirements identified in this permit.
- B. Except as authorized in Table 1 of this permit, the discharge shall be substantially free or shall not cause the following in the receiving water:
1. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce objectionable color, odor, or taste, either of itself or in combinations, or in the biota;
  2. The discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man;
  3. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits;
  4. The discharge shall be substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life;
  5. The discharge shall not cause the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes;
  6. The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002, or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury and ammonia;



Table 1 - Effluent limitations and monitoring, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Average Monthly	Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	Monitoring only		Continuous	Metered
pH	std. units	6.5 <sup>1</sup>	8.6 <sup>2</sup>	Continuous	Continuous
		The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.			
Temperature	°F	90	95	Continuous	Continuous
Biological Oxygen Demand	mg/l	Monitoring only		Once/Week	24-hr Composite
Total Suspended Solids	lbs/day	3,960	9,960	Once/Week	24-hr Composite
Oil and Grease	lbs/day	1,008	2,520	Once/Week	Grab
Total Nitrogen	lbs/day	1,200	2,100	2x/Week <sup>3</sup>	24-hr Composite
Total Phosphorus	lbs/day	192	309	2x/Week	24-hr Composite
Total Ammonia (as N)	mg/l	83.36	167.26	Once/Week	24-hr Composite
	lbs/day	2,016	4,045	Once/Week	24-hr Composite
Mercury (Total Recoverable)	ug/l	1.80	4.72	Semi-annual	24-hr Composite
	lbs/day	0.04	0.11	Semi-annual	24-hr Composite
Copper (Total Recoverable)	ug/l	58.42	117.22	Semi-annual	24-hr Composite
	lbs/day	1.41	2.84	Semi-annual	24-hr Composite
Zinc (Total Recoverable)	ug/l	1,138	2,284	Semi-annual	24-hr Composite
	lbs/day	27.52	55.24	Semi-annual	24-hr Composite

<sup>1</sup>Instantaneous Minimum

<sup>2</sup>Instantaneous Maximum

<sup>3</sup>Monitoring frequency based on sampling 2x per week for total nitrogen and total phosphorus means 24-hour composite samples are collected twice on production days only during a 7-day period.

7. The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units at and beyond the boundary of the zone of initial dilution;
  8. The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) at and beyond the boundary of the zone of initial dilution; and
  9. The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l at and beyond the boundary of the zone of initial dilution. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.
- C. The discharge shall not cause the following at the boundary of the mixing zone for mercury:
1. The discharge shall not cause the water column concentration of mercury to exceed 0.05 ug/l.
- D. The discharge shall not cause the following at the boundary of the mixing zone for nutrients:
1. The discharge shall not cause the total phosphorus concentration to exceed 30.0 ug/l as phosphorus;
  2. The discharge shall not cause the total nitrogen concentrations to exceed 200.0 ug/l as nitrogen; and
  3. The discharge shall not cause the concentration of chlorophyll-*a* to exceed 1.0 ug/l.

## **PART II - MONITORING AND REPORTING REQUIREMENTS**

### **A. Effluent Monitoring and Reporting**

#### **1. Effluent Sampling**

- a. Samples and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after plant return flows and following the final treatment process and before mixing with the receiving water. All effluent samples shall be taken during normal operations on production days.

#### **2. Effluent Analysis**

- a. Effluent monitoring and analyses must be conducted in accordance with EPA test procedures approved under Title 40, Code of Federal Regulations ("CFR"), Part

136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, as amended. For effluent analyses, the permittee shall utilize a Method Detection Limit ("MDL") or Minimum Level ("ML") that is lower than the effluent limitations described in Table 1 of this permit. If all published MDLs or MLs are higher than the effluent limitations, the permittee shall utilize the test method procedure with the lowest MDL or ML. The permittee shall ensure that the laboratory utilizes a standard calibration where the lowest standard point is equal to or less than the ML. Priority pollutant analysis for metals shall measure "total recoverable metal," except as provided under 40 CFR 122.45(c). Priority pollutant analysis for benzene, ethylbenzene, toluene and xylene shall employ the use of either EPA Methods 602 or 624. Effluent analysis for xylene shall measure "total xylene."

### 3. Effluent Quality Reporting

- a. For samples collected during the quarterly or semi-annual reporting period, the permittee shall report on the Discharge Monitoring Report ("DMR") the following for each pollutant or parameter:
  - i. The maximum value, if the result is greater than or equal to the ML; or
  - ii. NODI(Q), if result is greater than or equal to the laboratory's MDL but less than the ML; or
  - iii. NODI(B), if result is less than the laboratory's MDL.
- b. For pollutants with effluent limitations expressed in both concentration and mass, the permittee shall report monitoring results on the DMRs in both concentration and mass. To convert concentration to mass, the permittee shall use the following equation:

$$\frac{\text{lbs of pollutants}}{\text{day}} = \text{flow (MGD)} \times \text{concentration (mg/l)} \times 8.34 \frac{\text{lbs/MG}}{\text{mg/l}}$$

- c. As an attachment to each DMR form submitted during the quarterly or semi-annual reporting period, the permittee shall report for all pollutants or parameters with monitoring requirements specified in Table 1 of this permit the following:
  - i. The analytical method number or title, preparation and analytical test procedure utilized by the laboratory, published MDL or ML, the laboratory's MDL;
  - ii. The standard deviation from the laboratory's MDL study; and
  - iii. The number of replicate analyses (*n*) used to compute the laboratory's MDL.

- d. In addition to information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: the laboratory which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates, laboratory control samples, matrix spike and matrix spike duplicate results, and sample receipt condition, holding time, and preservation.
- e. All monitoring results shall be submitted in such a format as to allow direct comparison with effluent limitations and requirements in this permit. Monitoring results must be reported on a monthly or semi-annual DMR form. Monthly DMR forms shall be submitted quarterly and by the 15th of the month following the previous quarterly reporting period. For example, the three DMR forms for the reporting period January through March shall be submitted by the 15th of April. Semi-annual DMR forms shall be submitted by the 15th of the month following the semi-annual reporting period, unless otherwise specified by EPA.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator of EPA and the Director of ASEPA at the following addresses:

Regional Administrator  
EPA - Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

#### 4. Quality Assurance

- a. The permittee shall develop a Quality Assurance ("QA") Manual for the field collection and laboratory analysis of samples. The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. The QA Manual shall be prepared and implemented **within 90 days from the effective date of this permit**. At a minimum, the QA Manual shall include the following:
  - i. Identification of project management and a description of the roles and responsibilities of the participants; purpose of sample collection; matrix to be

sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples;

- ii. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/Quality Control (“QC”) samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;
  - iii. Identification of the laboratory used to analyze the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; MDL and ML to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and
  - iv. Discussion of how the permittee will perform data review and reporting of results to EPA and ASEPA and how the permittee will resolve data quality issues and identify limits on the use of data.
- b. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee’s QA Manual shall be retained on the permittee’s premises and available for review by EPA and/or ASEPA upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

B. Priority Toxic Pollutants Scan

1. In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the fourth or fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

C. Outfall Monitoring and Reporting

1. The permittee, in coordination with StarKist Samoa, Inc., shall conduct outfall monitoring to evaluate the condition of the Joint Cannery Outfall. During the permit period the outfall must be inspected along its entire length, from, and including, the

discharge connection at the pump(s) for each of COS Samoa Packing Company Inc. and StarKist Samoa, Inc. facilities, to the junction of the COS Samoa Packing Company Inc. and StarKist Samoa, Inc. discharge lines, and from the junction of the lines to the diffuser cap at the termination of the outfall.

The inspection shall include complete video recording of all submerged piping, anchors, fastening hardware, cathodic protection, diffuser ports, and diffuser end cap. The video recording shall include an audio portion that describes in detail the video captured. Where piping is located above the water surface still photographs shall be acceptable.

All circumstances that may possibly threaten the integrity of the outfall, and which may impede its normal operation and function, in the present or future, such as deteriorated hardware and fasteners, anchoring, pipe alignment, or the presence of debris, shall be specifically highlighted in the inspection report. **The permittee shall submit results of the outfall monitoring to EPA and ASEP no later than 90 days after the monitoring event**, unless otherwise specified by EPA.

#### D. Twenty-four Hour Reporting of Noncompliance

1. In accordance with 40 CFR 122.41(l)(6), the permittee shall report any noncompliance which may endanger human health or the environment. An example of noncompliance is an exceedance of a monthly average effluent limitation. Any information shall be provided orally, within 24 hours from the time the permittee becomes aware of the circumstances, to EPA and ASEPA.

The permittee shall notify EPA and ASEPA at the following telephone numbers:

Pacific Islands Office, CED-6  
EPA - Region IX  
(415) 972-3769

Director  
ASEPA  
(684) 633-2304

A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time that the noncompliance is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

### PART III - REOPENER PROVISIONS

- A. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.
- B. In accordance with 40 CFR and Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving water body, as a result of the discharge; or implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

### PART IV - STANDARD CONDITIONS

- A. The permittee shall comply with all Standard Conditions included as an attachment to this permit.

### PART V - SPECIAL CONDITIONS

#### A. Best Management Practices and Pollution Prevention

##### 1. Pollution Prevention Program

- a. The permittee is required to develop and implement appropriate pollution prevention measures or Best Management Practices (“BMPs”) designed to control site runoff, spillage or leaks, sludge or waste disposal, and drainage from fish processing areas that may contribute significant amounts of such pollutants to surface waters **within 90 days from the effective date of this permit** (section 304(e) of the CWA and 40 CFR 122.44(k)). BMPs shall include but are not limited to those necessary to control total suspended solids and oil and grease. Through the implementation of BMPs described in a BMP Plan, the permittee shall prevent or minimize the generation and discharge of wastes and pollutants from the facility to waters of the United States. The BMP plan shall be located at the facility and be made available upon request by EPA and/or ASEPA. Table 2 provides a summary of deadlines and activities, such as the development and implementation of a BMP plan, required in Special Conditions in this permit.

##### 2. Pollutant Minimization Plan

- a. The permittee shall develop and implement a Pollutant Minimization Plan. The permittee shall submit a Pollutant Minimization Plan workplan to EPA and ASEPA **no later than one year after the effective date of the permit** on how it will assess the sources of pollutants in different waste streams. Based on results

of implementing the workplan, the permittee shall develop a Pollutant Minimization Plan. **The Pollutant Minimization Plan shall be submitted by the end of the third year of the five-year permit cycle**, unless otherwise specified by EPA. For the purposes of the Pollutant Minimization Plan, pollutants include, but are not limited to, copper, zinc, and mercury. Copper, zinc, and mercury have been observed in the effluent at high concentrations due to routine cannery operations. Although mixing zones for these pollutants have been approved by American Samoa EQC, the permittee shall make every effort to identify the sources of these pollutants within the facility and develop a plan to minimize their entry into the facility's wastewater and subsequent discharge to the receiving water. The goal of the Pollutant Minimization Plan shall be to achieve as soon as practicable for the discharge to meet water quality standards copper, zinc, and mercury with a minimally sized mixing zone. **The permittee shall implement the Pollutant Minimization Plan in the fourth and fifth year of the five-year permit cycle.** Table 2 provides a summary of deadlines and activities, such as the development and implementation of a Pollutant Minimization Plan, required in Special Conditions in this permit.

#### B. Receiving Water Monitoring Program

##### 1. Receiving Water Monitoring

- a. The permittee shall conduct **semi-annual** receiving water monitoring that corresponds to tradewind and non-tradewind seasons. The permittee shall monitor at the following previously established receiving water monitoring locations pollutants or parameters at three depths, i.e., surface, mid-depth and bottom depth.
  - i. **Reference site**, Station 5, for monitoring of background concentrations for total phosphorus, total nitrogen, zinc, copper, mercury, and total ammonia;
  - ii. **End of the Pipe**, Station 14, for monitoring of zinc, copper, total mercury, total ammonia to evaluate mixing zones within the zone of initial dilution;
  - iii. **Zone of initial dilution**, Stations 8 and 8A, for monitoring of zinc, copper, total mercury, and total ammonia to evaluate their respective mixing zones that were authorized for this permit term; Stations 8 and 8A are located at the boundary of the zone of initial dilution;
  - iv. **Zone of mixing**, Station 16, for monitoring of total phosphorus, total nitrogen, and light penetration to evaluate the size of the mixing zone for nutrients that was authorized for this permit term and to determine compliance with narrative WQBELs; Station 16 is located at the boundary of the zone of mixing;



- v. **All stations** at the zone of initial dilution and zone of mixing for monitoring of visible floating materials, grease, oil, scum or foam; and
- vi. **All stations** at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, and dissolved oxygen, and light penetration at 65 feet to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

## 2. Receiving Water Monitoring Reporting

- a. Semi-annual receiving water monitoring results shall be submitted to EPA and ASEPA prior to the subsequent semi-annual receiving water monitoring event, unless otherwise specified by EPA. For example, if surface water samples were collected during the non-tradewind season in March, and tradewind sampling is scheduled for October, results shall be submitted to EPA and ASEPA prior to the October sampling event.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Receiving Water Monitoring Program, required in Special Conditions in this permit.

## C. Nutrient Loading and Assimilative Capacity Assessment

### 1. Nutrient Assessment

- a. The permittee, in coordination with COS Samoa Packing Company Inc., shall conduct an assessment of nutrient levels in the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution (i.e., farfield dilution). The purpose of the assessment is to determine whether the existing mass-based effluent limitations for nutrients are indeed set at the upper bounds of acceptable performance or the waste load allocation.
- b. The permittee, in coordination with COS Samoa Packing Company Inc., shall prepare and submit **no later than one year from the effective date of the permit, unless otherwise specified by EPA**, a Nutrient Loading and Assimilative Capacity Assessment workplan to EPA and ASEPA for review that describes the steps that will be taken to assess nutrients in the combined effluents discharges and the dilution required to meet water quality standards. At a minimum, the workplan (no more than five pages) shall include the following:
  - i. Description of the method(s) used to determine existing mass-based effluent limitations;

Table 2 - Summary of Schedule of Activities Pursuant to Special Conditions of this Permit.

Timeframe/Deadline	Activity
Upon Effective Date of Permit	Implement Receiving Water Monitoring Program
Implement within 90 days from Effective Date of Permit	Implement Pollution Prevention Program Submit Initial Investigation TRE Workplan (1-2 pages)
No Later than 180 Days from Effective Date of Permit	Submit Workplan for Chronic Toxicity Testing Special Study
No Later than One Year from Effective Date of Permit	Submit Workplan for Pollutant Minimization Plan Submit Workplan for Nutrient Loading and Assimilative Capacity Assessment
Years 1 - 3	Perform Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests
No Later than End of the Third Year from Effective Date of Permit	Submit Pollutant Minimization Plan Submit Final Report on Nutrient Loading and Assimilative Capacity Assessment
No Later than 90 days after Final Range-Finding Test	Final Report on Results of Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests (includes Chronic IWC value)
Years 4 - 5	Implement Pollutant Minimization Plan Perform Semi-Annual Chronic Toxicity Bioassays using Chronic IWC Based on Range-Finding Tests

ii. Description of the water quality models to be used to assess nutrients in the discharge; and

iii. A list of the projected outputs (e.g., dilution factors) from the models.

2. Nutrient Assessment Reporting

a. The permittee, in coordination with COS Samoa Packing Company Inc., shall submit a final report on the nutrient assessment to EPA and ASEPA **no later than**

**the end of the third year of the five year permit term, unless otherwise specified by EPA.** At a minimum, the final report shall include the following:

- i. Dilution calculations;
  - ii. Waste load allocation estimates (in concentration);
  - iii. Summary of model inputs and outputs (e.g., ambient and effluent data, flow); and
  - iv. Evaluation of the existing size of the mixing zone for nutrients based on modeling results.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Nutrient Loading and Assimilative Capacity Assessment, required in Special Conditions in this permit.

#### D. Chronic Toxicity Special Study

##### 1. Chronic Toxicity Testing and Range-Finding Tests

- a. The permittee, in coordination with COS Samoa Packing Company Inc., shall conduct a special study to evaluate chronic toxicity levels of the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution.
- b. The permittee, in coordination with COS Samoa Packing Company Inc., shall conduct **semi-annual** chronic toxicity testing using combined flow-weighted 24-hour composite effluent samples from its facility and the StarKist Samoa, Inc., facility. The purposes of the study are to determine the following:
  - i. Levels of chronic toxicity in the discharge;
  - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures; and
  - iii. Effluent triggers or limits.
- c. The permittee, in coordination with COS Samoa Packing Company Inc., shall prepare and submit **no later than 180 days from the effective date of the permit** a Chronic Toxicity Special Study workplan to EPA and ASEPA for review and approval that describes the steps to assess chronic toxicity in the combined effluents discharge. **At a minimum**, the workplan (no more than five pages) shall include a description of the procedures to determine the range of test concentrations and chronic toxicity, and who will be conducting the toxicity tests.
- d. Chronic toxicity test samples shall be collected at the point of discharge at the designated NPDES sampling station for effluent at the StarKist Samoa facility (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained).

- e. The permittee shall conduct a static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or sand dollar, *Dendraster excentricus* (Embryo-larval Development Test Method). Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
- f. **There are no chronic toxicity effluent limitations for the combined effluent. For years one through three of the five-year permit term**, the permittee, in coordination with COS Samoa Packing Company Inc., shall conduct **range-finding tests** to establish test solution concentrations, or the chronic toxicity in-stream waste concentration ("IWC") that includes the appropriate dilution factor, for definitive tests or routine chronic toxicity bioassays to be conducted in years four and five of the permit term. The range of concentrations just causing a chronic effect shall be determined in a range-finding test to provide information on the range of concentrations to be used in the routine chronic toxicity bioassays.
- g. The permittee shall perform semi-annual range-finding tests on a series of at least five effluent dilutions and proper controls. At completion of the range-finding tests, the permittee, in coordination with COS Samoa Packing Company Inc., shall prepare and submit **no later than 90 days from the final semi-annual range-finding test** a final report to EPA and ASEPA for review that describes the results of the range-finding tests. At a minimum, the final report shall include the following:
  - i. The levels of chronic toxicity in the discharge (e.g., the lowest observed effective concentration or LOEC);
  - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures;
  - iii. NOEC and EC<sub>25</sub> (or IC<sub>25</sub>) data and all data used to calculate it (include all statistical methods and concentration-response curves);
  - iv. The dilution series to be used in routine chronic toxicity bioassays in years four and five of the five-year permit term (the dilution series shall include the combined discharge IWC and two dilutions above and below this IWC); and
  - v. Effluent triggers based on the calculated IWC to assess chronic toxicity of the combined effluents.
- h. As part of the chronic toxicity special study, **in years four and five of the five-year permit term**, the permittee, in coordination with COS Samoa Packing Company Inc., shall conduct routine semi-annual chronic toxicity testing using the chronic toxicity IWC that was determined from the range-finding tests. The results of the range-finding tests shall be used to select at least five concentrations that include and bracket the IWC. Tests using this series of concentrations

should allow the NOEC and EC<sub>25</sub> (or IC<sub>25</sub>) values and their confidence limits to be estimated as precisely as possible.

- i. Table 2 provides a summary of deadlines and activities, such as conducting a Chronic Toxicity Special Study, required in Special Conditions in this permit.
2. Quality Assurance for Chronic Toxicity
- a. Quality assurance measures, instructions, and other recommendations and requirements are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
  - b. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the permitting authority.
  - c. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).
  - d. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, the permittee must re-sample and re-test within 14 days.
  - e. Because this permit requires sublethal hypothesis testing endpoints from test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995), with-in test variability must be reviewed for acceptability and variability criteria (upper percent MSD bound) must be applied, as directed under each test methods. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form.
  - f. When effluent monitoring frequencies for whole effluent toxicity and priority pollutants are concurrent, the permittee shall perform chemical analyses for priority pollutants on a split sample collected for whole effluent toxicity testing.

### 3. Reporting of Chronic Toxicity Special Study Results

- a. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the semi-annual period in which the toxicity test was conducted and shall also include: the toxicity test results - in **NOEC**;  **$TU_c = 100 \div NOEC$** ;  **$EC_{25}$  (or  $IC_{25}$ )**; and  **$TU_c = 100 \div EC_{25}$  (or  $IC_{25}$ )** - reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations. NOEC is the highest concentration of toxicant which organisms are exposed in a short-term chronic test that causes no observable adverse effects on the test organisms (e.g., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). The permit requires additional toxicity testing if a chronic toxicity monitoring trigger is exceeded.
- b. The permittee shall notify the permitting authority in writing within 14 days of exceedance of a chronic toxicity monitoring trigger. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

### 4. TRE Workplan for Chronic Toxicity

- a. **No later than 90 days after the effective date of the permit**, the permittee shall prepare and submit a copy of a TRE Workplan (1-2 pages) specific to chronic toxicity to EPA and ASEPA for review. This plan shall include steps the permittee intends to follow if toxicity is measured above chronic toxicity monitoring triggers and should include, at a minimum the following:
  - i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of chronic toxicity, effluent variability, and treatment system efficiency;
  - ii. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility; and
  - iii. If a Toxicity Identification Evaluation ("TIE") is necessary, an indication of who would conduct the TIE (i.e., an in-house expert or outside contractor).

### 5. Accelerated Toxicity Testing and TRE/TIE Process for Chronic Toxicity

- a. **If during range finding testing in years one through three, one test result is found to be greater than  $256 TU_c$  (during the semi-annual reporting period)**

**or a NOEC of 0.390 percent effluent (which is based on a maximum allowable dilution of 313:1 estimated at the ZID), the permittee is required to perform accelerated toxicity testing.**

- b. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger based on the IWC is exceeded and the **source of toxicity is known** (e.g., a temporary plant upset), then the permittee shall conduct **one additional toxicity test** using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic toxicity monitoring trigger. If the additional toxicity test does not exceed a chronic toxicity monitoring trigger, then the permittee may return to their regular testing frequency.
- c. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger is exceeded and the **source of toxicity is not known**, then the permittee shall conduct **six additional toxicity tests** using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding the chronic toxicity monitoring trigger. If none of the additional toxicity tests exceed a chronic toxicity monitoring trigger then the permittee may return to their regular testing frequency.
- d. If additional toxicity tests (as stated paragraphs 5a, 5b and 5c above) exceeds a chronic toxicity monitoring trigger, then, within 14 days of receipt of this test result, the permittee shall implements its TRE Workplan (as described in Part 4 of this section) using the same species and test method and, as guidance, EPA manual EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 1989).
- e. The permittee may initiate a TIE as part of a TRE to identify the causes of chronic toxicity, using as guidance the following EPA manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993a); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993b); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA 1996).

## PART VI - DEFINITIONS

**24-hr Composite.** A “composite” sample means a time-proportioned mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

**Average Monthly Effluent Limitation ("AML").** The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Best Management Practices ("BMPs").** Best Management Practices” or “BMPs” are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.

**Chronic Toxicity.** The degree to which a pollutant, discharge, or water sample causes a sublethal toxic response, such as an alteration in growth rate or reproduction.

**Chronic Toxic Unit (TU<sub>c</sub>).** The reciprocal of the highest tested concentration of an effluent or test sample whose effect is not statistically different from the control determined in a chronic toxicity test (i.e.,  $TU_c = 100 \div NOEC$ ).

**Daily Discharge.** A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

**Discharge Monitoring Report (“DMR”).** A NPDES form for the reporting of self-monitoring NPDES results by the permittee.

**Grab Sample.** A single individual sample collected at a particular time and place that represents the composition of the discharge only at that time and place. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3,



procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

**Maximum Daily Effluent Limitation ("MDL").** The highest allowable daily discharge of a pollutant or parameter, over a calendar day or 24-hr period. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day.

**Method Detection Limit ("MDL").** The minimum concentration of an analyte that can be detected with 99 percent confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR 136. The procedure for determination of a laboratory MDL is in 40 CFR 136, Appendix B.

**Minimum Level ("ML").** The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed (as defined in EPA's draft *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels*, March 22, 1994). If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor MDL are available under 40 CFR 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML.) At this point in the calculation, a different procedure is used for metals, than non-metals:

- For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number; and
- For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of  $(1, 2, \text{ or } 5) \times 10^n$ , where  $n$  is zero or an integer. (For example, if an MDL is 2.5 ug/l, then the calculated ML is:  $2.5 \text{ ug/l} \times 3.18 = 7.95 \text{ ug/l}$ . The multiple of  $(1, 2, \text{ or } 5) \times 10^n$  nearest to 7.95 is  $1 \times 10^1 = 10 \text{ ug/l}$ , so the calculated ML, rounded to the nearest whole number, is 10 ug/l.).

**NODI(B).** The concentration of the pollutant in a sample is not detected. NODI(B) is reported on a DMR when a sample result is less than the laboratory's MDL.

**NODI(Q).** The concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported on a DMR when a sample result is greater than or equal to the laboratory's MDL, but less than the ML.

**No Observed Effect Concentration ("NOEC").** The highest tested concentration of an effluent or test sample whose effect is not statistically different from the control.

**Toxicity Identification Evaluation ("TIE").** A set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organisms toxicity tests.

**Toxicity Reduction Evaluation ("TRE").** A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation ("TIE") may be required as part of the TRE, if appropriate.

**Whole Effluent Toxicity ("WET").** The aggregate toxic effect of an effluent measured directly with a toxicity test.

**Zone of Initial Dilution ("ZID").** By definition within American Samoa water quality standards, it is the area of a plume where dilution is achieved due to the combined effects of momentum and buoyancy of the effluent discharged from an orifice. This is also often referred as the region of initial mixing surround or adjacent to the end of the outfall pipe or diffuser port. For the purposes of this permit, the ZID represents a seawater-to-effluent dilution ratio of 313:1 based on critical initial dilution.

**Zone of Mixing ("ZOM").** A defined portion of a water body receiving water around a point source within which specific modifications of applicable water quality standards are approved by American Samoa Environmental Quality Council.

## **PART VII - REFERENCES**

EPA. 1989. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations. Fava, J. A., Lindsay, D., Clement, W. H., Clark, R., and DeGraeve, G. M. Chemicals and Chemical Product Branch, Risk Reduction Engineering Laboratory, EPA. EPA/600/2-88/070.

EPA. 1992. Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I. Office of Research and Development, Environmental Research Laboratory, EPA. EPA/600/6-91/005F.

EPA. 1993a. Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/080.

EPA 1993b. Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/081.

EPA. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. Chapman, G. A., Denton, D. L., and Lazorchak, J. M. National Exposure Research Laboratory, Office of Research and Development, EPA. EPA/600/R-95/136.

EPA. 1996. Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document. Burgess, R. M., Ho, K. T., Morrison, G. E., Chapman, G. and Denton, D. L. National Health and Environmental Effects Laboratory, Atlantic Ecology Division, EPA, Narragansett, RI. EPA/600/R-96/054.

EPA. 2002. National Recommended Water Quality Criteria. Office of Water, EPA. EPA/822/R-02/047.

## **PART VIII - ATTACHMENT**

## **ATTACHMENT A**

---

### **UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

#### **REGION IX**

#### **CWA STANDARDS AND PERMITS OFFICE (WTR-5)**

---

### **STANDARD FEDERAL NPDES PERMIT CONDITIONS**

**Updated as of June 3, 2002**

**Reference: CFR 40 Parts 100 to 135, July 1, 2001**

---

#### **1. DUTY TO REAPPLY [40 CFR 122.21 (d)]**

The permittee shall submit a new application 180 days before the existing permit expires.  
122.2(c)(2)

POTW's with currently effective NPDES permits shall submit with the next application the sludge information listed at 40 CFR 501.15(a)(2).

#### **2. APPLICATIONS [40 CFR 122.22]**

All permit applications shall be signed as follows:

(1) For a corporation, by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

- (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or
- (ii) The manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

(2) For a partnership or sole proprietorship. By a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency. By either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes: (i) The chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

All reports required by permits, and other information requested by the Director shall be signed by a person described in paragraph (a) of this section, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described in paragraph (a) of this section;

(2) The authorization specifies either an individual or position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company, (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) and,

(3) The written authorization is submitted to the Director.

Changes to authorization. If an authorization under paragraph (b) of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph (b) of this section must be submitted to the Director prior to or together with any reports, information, or applications to be signed by an authorized representative.

Certification. Any person signing a document under paragraph (a) or (b) of this section shall make the following certification:

(1) I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

### **3 . DUTY TO COMPLY [40 CFR 122.41(a)]**

The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Clean Water Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application.

(1) The permittee shall comply with effluent standards or prohibitions established under section 307(a) of the Clean Water Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions or standards for sewage sludge use or disposal, even if the permit has not yet been modified to incorporate the requirement.

(2) The Clean Water Act provides that any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed \$25,000 per day for each violation. The Clean Water Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both. Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both. Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318, or 405 of the Act, or any permit condition of limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at the time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both.

An organization, as defined in section 309(c)(3)(B)(iii) of the CWA, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

(3) Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act.

Administrative penalties for Class I violations are not to exceed \$10,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$25,000. Penalties for Class II violations are not to exceed \$10,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$125,000.

**4. NEED TO HALT OR REDUCE ACTIVITY NOT A DEFENSE [40 CFR 122.41(c)]**

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

**5. DUTY TO MITIGATE [40 CFR 122.41(d)]**

The permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

**6. PROPER OPERATION AND MAINTENANCE [40 CFR 122.41(e)]**

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

**7. PERMIT ACTIONS [40 CFR 122.41(f)]**

This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

**8. PROPERTY RIGHTS [40 CFR 122.41(g)]**

This permit does not convey any property rights of any sort, or any exclusive privilege.

**9. DUTY TO PROVIDE INFORMATION [40 CFR 122.41(h)]**

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit. The permittee shall also furnish to the Director upon request, copies of records required to be kept by this permit.

#### **10. INSPECTION AND ENTRY [40 CFR 122.41(i)]**

The permittee shall allow the Director, or an authorized representative (including an authorized contractor acting as a representative of the Administrator), upon presentation of credentials and other documents as may be required by law, to:

- (1) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
- (2) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
- (3) Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
- (4) Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

#### **11. MONITORING AND RECORDS [40 CFR 122.41(j)]**

- (1) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.
- (2) Except for records of monitoring information required by this permit related to the permittee's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 CFR part 503), the permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least 3 years from the date of the sample, measurement, report or application. This period may be extended by request of the Director at any time.
- (3) Records of monitoring information shall include:
  - (i) The date, exact place, and time of sampling or measurements;
  - (ii) The individual(s) who performed the sampling or measurements;
  - (iii) The date(s) analyses were performed;
  - (iv) The individual(s) who performed the analyses;
  - (v) The analytical techniques or methods used; and
  - (vi) The results of such analyses.
- (4) Monitoring results must be conducted according to test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, unless other test procedures have been specified in the permit.



(5) The Clean Water Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both.

## **12. SIGNATORY REQUIREMENT [40 CFR 122.41(k)]**

(1) All applications, reports, or information submitted to the Director shall be signed and certified. [See 40 CFR 122.22]

(2) The CWA provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

## **13. REPORT REQUIREMENTS [40 CFR 122.41(l)]**

(1) Planned changes. The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

- (i) The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in Sec. 122.29(b); or
- (ii) The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under Sec. 122.42(a)(1).
- (iii) The alteration or addition results in a significant change in the permittee's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan;

(2) Anticipated noncompliance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(3) Transfers. This permit is not transferable to any person except after notice to the Director. The Director may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act. (See Sec. 122.61; in some cases, modification or revocation and reissuance is mandatory.)

(4) Monitoring reports. Monitoring results shall be reported at the intervals specified elsewhere in this permit.

(i) Monitoring results must be reported on a Discharge Monitoring Report (DMR) or forms provided or specified by the Director for reporting results of monitoring of sludge use or disposal practices.

(ii) If the permittee monitors any pollutant more frequently than required by the permit using test procedures approved under 40 CFR part 136 or, in the case of sludge use or disposal, approved under 40 CFR part 136 unless otherwise specified in 40 CFR part 503, or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Director.

(iii) Calculations for all limitations which require averaging of measurements shall utilize arithmetic mean unless otherwise specified by the Director in the permit.

(5) Compliance schedules. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than 14 days following each schedule date.

(6) Twenty-four hour reporting.

(i) The permittee shall report any noncompliance which may endanger health or the environment.

Any information shall be provided orally within 24 hours from the time the permittee becomes aware of the circumstances. A written submission shall also be provided within 5 days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

(ii) The following shall be included as information which must be reported within 24 hours under this paragraph.

(a) Any unanticipated bypass which exceeds any effluent limitation in the permit. (See Sec. 122.41(g).)

(b) Any upset which exceeds any effluent limitation in the permit.

(c) Violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit to be reported within 24 hours. (See Sec. 122.44(g).)

(iii) The Director may waive the written report on a case-by-case basis for reports under paragraph (1)(6)(ii) of this section if the oral report has been received within 24 hours.

(7) Other noncompliance. The permittee shall report all instances of noncompliance not reported under paragraphs (1) (4), (5), and (6) of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraph (1)(6) of this section.

(8) Other information. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

#### **14. BYPASS [40 CFR 122.41(m)]**

##### **(1) Definitions.**

(i) Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

(ii) Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

(2) Bypass not exceeding limitations. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs (m)(3) and (m)(4) of this section.

##### **(3) Notice.**

(i) Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

(ii) Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in paragraph (1)(6) of this section (24-hour notice).

##### **(4) Prohibition of bypass.**

(i) Bypass is prohibited, and the Director may take enforcement action against a permittee for bypass, unless:

(a) Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(b) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

(c) The permittee submitted notices as required under paragraph (m) (3) of this section.

- (ii) The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in paragraph (m)(4)(i) of this section.

#### **15. UPSET [40 CFR 122.41(n)]**

(1) Definition. Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

(2) Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of paragraph(n)(3) of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

(3) Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (i) An upset occurred and that the permittee can identify the cause(s) of the upset;
- (ii) The permitted facility was at the time being properly operated; and
- (iii) The permittee submitted notice of the upset as required in paragraph (1)(6)(ii)(b) of this section (24 hour notice).
- (iv) The permittee complied with any remedial measures required under paragraph (d) of this section.

(4) Burden of proof. In any enforcement proceeding the permittee seeking to establish the occurrence of an upset has the burden of proof.

#### **16. EXISTING MANUFACTURING, COMMERCIAL, MINING, AND SILVICULTURAL DISCHARGERS [40 CFR 122.42(a)]**

In addition to the reporting requirements under Sec. 122.41(1), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

(1) That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (i) One hundred micrograms per liter (100 µg/l);

- (ii) Two hundred micrograms per liter (200 µg/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/l) for antimony;
- (iii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with Sec. 122.21(g) (7); or
- (iv) The level established by the Director in accordance with Sec. 122.44(f).

(2) That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

- (i) Five hundred micrograms per liter (500 µg/l);
- (ii) One milligram per liter (1 mg/l) for antimony;
- (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with Sec. 122.21(g)(7).
- (iv) The level established by the Director in accordance with Sec. 122.44(f).

#### **17. PUBLICLY OWNED TREATMENT WORKS [40 CFR 122.42(b)]**

This section applies only to publicly owned treatment works (POTWs) as defined at 40 CFR 122.22.

All POTWs must provide adequate notice to the Director of the following:

- (1) Any new introduction of pollutants into the POTW from an indirect discharger which would be subject to section 301 or 306 of CWA if it were directly discharging those pollutants; and
- (2) Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.
- (3) For purposes of this paragraph, adequate notice shall include information on (i) the quality and quantity of effluent introduced into the POTW, and (ii) any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

[The following condition has been established by Region IX to enforce applicable requirements of the Resource Conservation and Recovery Act] Publicly owned treatment works may not receive hazardous waste by truck, rail, or dedicated pipe except as provided under 40 CFR 270. Hazardous wastes are defined at 40 CFR 261.31 - 261.33. The Domestic Sewage Exclusion (40 CFR 261.4) applies only to wastes mixed with domestic sewage in a sewer leading to a publicly owned treatment works and not to mixtures of hazardous wastes and sewage or septage delivered to the treatment plant by truck.

Municipal separate storm sewer systems. The operator of a large or medium municipal separate storm sewer system or a municipal separate storm sewer that has been designated by the Director

under Sec. 122.26(a)(1)(v) of this part must submit an annual report by the anniversary of the date of the issuance of the permit for such system. The report shall include:

- (1) The status of implementing the components of the storm water management program that are established as permit conditions;
- (2) Proposed changes to the storm water management programs that are established as permit condition. Such proposed changes shall be consistent with Sec. 122.26(d)(2)(iii) of this part; and
- (3) Revisions, if necessary, to the assessment of controls and the fiscal analysis reported in the permit application under Sec. 122.26(d)(2)(iv) and (d)(2)(v) of this part;
- (4) A summary of data, including monitoring data, that is accumulated throughout the reporting year;
- (5) Annual expenditures and budget for year following each annual report;
- (6) A summary describing the number and nature of enforcement actions, inspections, and public education programs; and
- (7) Identification of water quality improvements or degradation.

Storm water discharges. The initial permits for discharges composed entirely of storm water issued pursuant to Sec. 122.26(e)(7) of this part shall require compliance with the conditions of the permit as expeditiously as practicable, but in no event later than three years after the date of issuance of the permit.

#### **18. REOPENER CLAUSE [40 CFR 122.44(c)]**

For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

#### **19. PRIVATELY OWNED TREATMENT WORKS [40 CFR 122.44(m)]**

For a privately owned treatment works, any conditions expressly applicable to any user, as a limited co-permittee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits, or to require

separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

## **20. TRANSFERS BY MODIFICATION [40 CFR 122.61(a)]**

Except as provided in paragraph (b) of this section, a permit may be transferred by the permittee to a new owner or operator only if the permit has been modified or revoked and reissued (under Sec. 122.62 (b)(2)), or a minor modification made (under Sec. 122.63(d)), to identify the new permittee and incorporate such other requirements as may be necessary under CWA.

## **21. AUTOMATIC TRANSFERS [40 CFR 122.61(b)]**

As an alternative to transfers under paragraph (a) of this section, any NPDES permit may be automatically transferred to a new permittee if:

- (1) The current permittee notifies the Director at least 30 days in advance of the proposed transfer date in paragraph (b)(2) of this section;
- (2) The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
- (3) The Director does not notify the existing permittee and the proposed new permittee of his or her intent to modify or revoke and reissue the permit. A modification under this subparagraph may also be a minor modification under Sec. 122.63. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph (b)(2) of this section.

## **22. MINOR MODIFICATIONS OF PERMITS [40 CFR 122.63]**

Upon the consent of the permittee, the Director may modify a permit to make the corrections or allowances for changes in the permitted activity listed in this section, without following the procedures of part 124. Any permit modification not processed as a minor modification under this section must be made for cause and with part 124 draft permit and public notice as required in Sec. 122.62. Minor modifications may only:

- (1) Correct typographical errors;
- (2) Require more frequent monitoring or reporting by the permittee;
- (3) Change an interim compliance date in a schedule of compliance, provided the new date is not more than 120 days after the date specified in the existing permit and does not interfere with attainment of the final compliance date requirement; or
- (4) Allow for a change in ownership or operational control of a facility where the Director determines that no other change in the permit is necessary, provided that a written agreement

containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittees has been submitted to the Director.

(5) Change the construction schedule for a discharger which is a new source. No such change shall affect a discharger's obligation to have all pollution control equipment installed and in operation prior to discharge under Sec. 122.29.

(6) Delete a point source outfall when the discharge from that outfall is terminated and does not result in discharge of pollutants from other outfalls except in accordance with permit limits.

(7) [Reserved]

(8) Incorporate conditions of a POTW pretreatment program that has been approved in accordance with the procedures in 40 CFR 403.11 (or a modification thereto that has been approved in accordance with the procedures in 40 CFR 403.18) as enforceable conditions of the POTW's permits.

## **23. TERMINATION OF PERMITS [40 CFR 122.64]**

The following are causes for terminating a permit during its term, or for denying a permit renewal application:

- (1) Noncompliance by the permittee with any condition of the permit;
- (2) The permittee's failure in the application or during the permit issuance process to disclose fully all relevant facts, or the permittee's misrepresentation of any relevant facts at any time;
- (3) A determination that the permitted activity endangers human health or the environment and can only be regulated to acceptable levels by permit modification or termination; or
- (4) A change in any condition that requires either a temporary or permanent reduction or elimination of any discharge or sludge use or disposal practice controlled by the permit (for example, plant closure or termination of discharge by connection to a POTW).

## **24. AVAILABILITY OF REPORTS [Pursuant to Clean Water Act Section 308]**

Except for data determined to be confidential under 40 CFR Part 2, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Regional Administrator. As required by the Act, permit applications, permits, and effluent data shall not be considered confidential.

## **25. REMOVED SUBSTANCES [Pursuant to Clean Water Act Section 301]**



Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

**26. SEVERABILITY [Pursuant to Clean Water Act Section 512]**

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and remainder of the permit, shall not be affected thereby.

**27. CIVIL AND CRIMINAL LIABILITY [Pursuant to Clean Water Act Section 309]**

Except as provided in permit conditions on "Bypass" (Section 14) and "Upset" (Section 15), nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

**28. OIL AND HAZARDOUS SUBSTANCE LIABILITY [Pursuant to Clean Water Act Section 311]**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

**29. STATE OR TRIBAL LAW [Pursuant to Clean Water Act Section 510]**

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the operator from any responsibilities, liabilities, or penalties established pursuant to any applicable State or Tribal law or regulation under authority preserved by Section 510 of the Clean Water Act.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**NPDES PERMIT NO. AS0000019**

In compliance with the provisions of the Clean Water Act ("CWA") (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

<b>Discharger Name</b>	StarKist Samoa, Inc.
<b>Discharger Address</b>	P.O. Box 368
	Pago Pago, Tutuila
	American Samoa 96799
<b>Facility Name</b>	StarKist Samoa, Inc.
<b>Facility Address</b>	Atu'u, Maoputasi
	American Samoa 96799
<b>Facility Rating</b>	Major

<b>Outfall Number</b>	<b>General Type of Waste Discharged</b>	<b>Outfall Latitude</b>	<b>Outfall Longitude</b>	<b>Receiving Water</b>
001	Industrial Wastewater	S 14°16.824'	W 170°40.133'	Pago Pago Harbor

<b>This permit was issued on:</b>	
<b>This permit shall become effective on:</b>	
<b>This permit shall expire at midnight on:</b>	
<b>In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.</b>	

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2008, for the Regional Administrator.

\_\_\_\_\_  
Alexis Strauss, Director  
Water Division

<b>MAIL CODE</b>	WTR-5	WTR-5	WTR-1			
<b>SURNAME</b>	M. H. H. H.	Eberhardt	W. H.			
<b>DATE</b>	2/27/08	27 FEB 08	2/28/08			

U.S. EPA CONCURRENCES

OFFICIAL FILE COPY



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Certified Mail No. 7004 2510 0006 9180 4056  
Return Receipt Requested

FEB 28 2008

Mr. Brett B. Butler  
StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

RE: Final Fact Sheet and Permit for StarKist Samoa, Inc.,  
NPDES Permit No. AS0000019

Dear Mr. Butler:

The U.S. Environmental Protection Agency ("EPA") has issued a final National Pollutant Discharge Elimination System ("NPDES") permit for:

StarKist Samoa, Inc.,  
Atu'u, Maoputasi,  
American Samoa 96799.

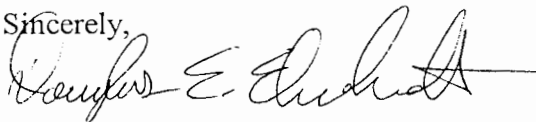
The public comment period was from January 9 to February 7, 2008. During the public comment period, several comments were submitted to EPA by **gdc** on behalf of StarKist Samoa, Inc., on the draft NPDES permit for the StarKist Samoa, Inc. facility. No other public comments were received on the draft NPDES permit. On February 19, 2008, EPA provided **gdc** and StarKist Samoa, Inc. a response to these comments. After considering the expressed views of all interested persons and agencies, and pertinent federal and American Samoa statutes and regulations, EPA has issued a final NPDES permit which does not differ significantly from the draft permit. Please find enclosed the final fact sheet and final NPDES permit.

The final NPDES permit is hereby issued upon the date of signature and shall become effective 33 days from the date when the final permit was signed unless there is a written request for an evidentiary hearing for the permit. Pursuant to 40 CFR 124.74, a request for an evidentiary hearing must state each of the legal or factual questions alleged to be at issue and must demonstrate one of the following for each issue being raised in the hearing request: 1) that the issue was raised during the public comment period; or 2) that the requester could not have reasonably anticipated the relevance or materiality of the issue during the comment period. Any request for an evidentiary hearing must be submitted within 33 days from the date when the final permit was signed.

EPA will routinely deny any evidentiary hearing request which is postmarked later than the 33rd day from the date when the final permit was signed. Also, EPA will routinely deny any evidentiary hearing request which raises only legal issues. Any denial of a request for an evidentiary hearing may be appealed to the Administrator within 30 days from the date of notice of the denial. The requester must exhaust all administrative review before seeking judicial review.

If you have any questions regarding the draft permit or permitting process, please contact Mr. Carl Goldstein by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Douglas E. Eberhardt", with a long horizontal flourish extending to the right.

Douglas E. Eberhardt  
Chief, NPDES Permits Office

Enclosures (2)

cc: Director, ASEPA  
Mr. Steve Costa, gdc  
Mr. Patrick Leonard, USFWS  
Mr. Chris Yates, NMFS

**SENDER: COMPLETE THIS SECTION**

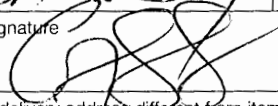
- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Brett B. Butler  
StarKist Samoa, Inc.  
P. O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

**COMPLETE THIS SECTION ON DELIVERY**

A. Received by (Please Print Clearly) **SANDY** B. Date of Delivery

C. Signature **X** 

☐ Agent

☐ Addressee

D. Is delivery address different from item 1? ☐ Yes

If YES, enter delivery address below: ☐ No

3. Service Type

☐ Certified Mail

☐ Express Mail

☐ Registered

☐ Return Receipt for Merchandise

☐ Insured Mail

☐ C.O.D.

4. Restricted Delivery? (Extra Fee)

☐ Yes

2. Article Number (Copy from service label)

**7004 2510 0006 9180 4056**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**FACT SHEET**

Permittee and Mailing Address: StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

Permitted Facility and Address: StarKist Samoa, Inc.  
Atu'u, Maoputasi  
American Samoa 96799

Contact Person: Mr. Brett B. Butler  
General Manager  
(684) 644-1835

NPDES Permit No.: AS0000019

**PART I - STATUS OF PERMIT**

StarKist Samoa, Inc. (hereinafter, the "permittee") has applied for renewal of its National Pollutant Discharge Elimination System ("NPDES") permit pursuant to U.S. Environmental Protection Agency ("EPA") regulations set forth in Title 40, Code of Federal Regulations ("CFR"), Part 122.21, for the discharge of treated effluent from its tuna processing and canning facility to Pago Pago Harbor in American Samoa. These regulations require any person who discharges or proposes to discharge pollutants from a point source into waters of the U.S. to submit a complete application for a NPDES permit, including renewal of a permit. In accordance with 40 CFR 122.21(e), on July 26, 2005, the permittee submitted a complete application for renewal of its NPDES permit. The permittee is currently discharging to Pago Pago Harbor under the NPDES permit No. AS0000019, which became effective on January 23, 2001, and expired on January 23, 2006. Pursuant to 40 CFR 122.21, the terms of the previous permit were administratively extended until the issuance of the new permit.

**PART II - DESCRIPTION OF FACILITY**

The permittee owns and operates a tuna processing and canning facility (the "facility") that is located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa ("American Samoa;" Attachment A). The facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. In the permit renewal application, the permittee indicated a long-term average daily production of 564 tons or 1,128,000 lbs of tuna processed per day (February 2001 to March 2005), with a maximum daily production of 614 tons or 1,228,000 lbs per day (March 2003) observed. During the permit term, the permittee anticipates a maximum average daily production<sup>1</sup> of 600 tons or 1,200,000 lbs of tuna processed per day.

---

<sup>1</sup>The anticipated maximum average daily production is based on the total number of lbs of tuna processed over the month divided by the number of days of operation in the month. This is not design production.

The facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. The facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

### **PART III - DESCRIPTION OF DISCHARGE AND RECEIVING WATER**

During facility operations, the permittee discharges to Pago Pago Harbor at the following discharge point:

<b>Discharge Point</b>	<b>Discharge Point Description</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>
001	Joint Cannery Outfall	Industrial Wastewater	13° 17'01"S	170° 40'02"W

Discharge Point No. 001 is located approximately 1.5 miles seaward from the facility and began operation in February 1992. The discharge point, also known as the Joint Cannery Outfall or "JCO", is shared by both the permittee and the adjacent tuna processing facility operated by Chicken of the Sea ("COS") Samoa Packing Company, Inc. (Attachment B). COS Samoa Packing Company, Inc. is currently discharging under a separate NPDES permit (AS0000027). Discharge Point No. 001 terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor. The diffuser consists of four active and two inactive (intentionally blocked) ports.

Effluent discharges at Discharge Point No. 001 from the StarKist Samoa, Inc. facility include storm water runoff and industrial wastewater from process areas that include cold storage, thawing, butchering, and pre-cooking, spray-cooling, press-scrap reduction, can washer and boiler, and wash down (Attachment C). All discharges from the facility (i.e., storm water and non-storm water) are regulated under the previous NPDES permit and are treated by a Dissolved Air Flotation ("DAF") unit and released to Pago Pago Harbor. Accumulated sludge from the DAF unit and high-strength waste from pre-cooking and scrap reduction areas are collected and disposed of offsite at a federally-permitted ocean disposal site (EPA Ocean Disposal Permit No. OD93-01 SPECIAL). Based on effluent monitoring data, the permittee reported a maximum daily maximum flow rate of 2.57 million gallons per day ("MGD;" January 2002 to December 2006), and a maximum monthly average flow of 1.56 MGD (January 2002 to March 2005). The facility's wastewater treatment's design flow is 2.9 MGD. Table 1 provides a summary of effluent limitations contained in the existing permit and representative monitoring data during the permit term.

In summary, effluent monitoring data collected from January 2002 to December 2006 showed elevated temperatures and concentrations of total suspended solids, total ammonia, total nitrogen, total phosphorus, oil and grease, copper, and zinc. As shown in Table 1, the highest concentrations of total ammonia, total nitrogen, total phosphorus, oil and grease, copper, and

Table 1 – Summary of Previous Technology and Water Quality-based Effluent Limitations and Monitoring Data for Discharge Point No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Previous Effluent Limitations		Monitoring Data (From Jan. 2002 to Dec. 2006)	
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily
Flow Rate	MGD <sup>1</sup>	--	2.9	1.56	2.57
Temperature	°F	90	95	91	114
Total Suspended Solids	lbs/day	2,996	7,536	3,664.5	6,520.9
Oil and Grease	lbs/day	763	1,907	1,261.8	3391.9
Total Nitrogen	lbs/day	1,200	2,100	3,795.5	5,460.9
Total Phosphorus	lbs/day	192	309	393.0	583.5
Total Ammonia (as N)	mg/l	--	133	--	167.3
Copper	ug/l	66	108	346	346
Zinc	ug/l	1,545	1,770	4,740	4,740

<sup>1</sup>MGD means million gallons per day.

zinc exceeded previous permit effluent limitations. Except for copper and zinc, the highest concentrations were observed in January 2002. The highest concentrations of copper and zinc were observed in April 2004 and December 2005, respectively.

To protect the designated uses of surface waters of the U.S., American Samoa has adopted water quality standards for marine waters depending on the level of protection required. Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. The Harbor is approximately three miles long with the entrance facing to the south and depths ranging from 60 to over 200 feet. American Samoa water quality standards ("ASWQS") state that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transshipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the [Environmental Quality Commission] has established a separate set of standards for Pago Pago Harbor." These standards identify the protected uses for Pago Pago Harbor and include the following:

- recreational and subsistence fishing;
- boat-launching ramps and designated mooring areas;



- subsistence food gathering, e.g. shellfish harvesting;
- aesthetic enjoyment;
- whole and limited body-contact recreation, e.g., swimming, snorkeling, and scuba diving;
- support and propagation of marine life;
- industrial water supply;
- mari-culture development;
- normal harbor activities, e.g., ship movements, docking, loading and unloading, marine railways and floating drydocks; and
- scientific investigations.

To protect these uses, ASWQS also establish prohibited uses that include but are not limited to the following:

- dumping or discharge of solids waste;
- animal pens over or within 50 feet of any shoreline;
- dredging and filling activities; except as approved by the Environmental Quality Commission ("EQC");
- toxic, hazardous and radioactive waste discharges; and
- discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other wastewater from any vessel or unpermitted shoreside facility.

#### **PART IV - DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS**

The Clean Water Act ("CWA") requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States. The control of pollutants is established through effluent limitations and other requirements in NPDES permits. When determining effluent limitations, EPA must consider limitations based on the technology used to treat the pollutant(s) (i.e., technology-based effluent limits) and limitations that are protective of water quality standards (i.e., water quality-based effluent limits). Since storm water is mixed with process waste water, technology-based effluent limitations and water quality-based effluent limits apply to the combined discharge.

##### **A. Applicable Technology-based Effluent Limitations**

In accordance with 40 CFR 408.140, technology-based effluent limitations are established for total suspended solids and oil and grease based on nationally promulgated effluent limitation guidelines for tuna processing facilities (40 FR 55781, Dec. 1, 1975). These effluent limitations guidelines ("ELGs") represent the degree of effluent reduction attainable by the application of the best practicable control technology currently available ("BPT") and best conventional pollutant control technology ("BCT") for the processing of tuna. Table 2 provides a summary of technology-based effluent limitations for Discharge Point No. 001.

1. **Total Suspended Solids.** Pursuant to 40 CFR 408.142 and 408.47, effluent limitations are established for total suspended solids and are based on BPT. As

Table 2 - Summary of Technology-based Effluent Limitations for Discharge Point No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Total Suspended Solids	lbs/day	3,960	9,960
Oil and Grease	lbs/day	1,008	2,520

provided in 40 CFR 408.147, BCT limitations shall be the same as the BPT limitations. The ELGs for BPT for suspended solids include a daily maximum of 8.3 lbs/1,000 lbs of seafood processed per day and a 30-day average of 3.3 lbs/1000 lbs of seafood processed per day. The previous permit established total suspended solids effluent limitations based on the average daily production of 454 tons of seafood processed per day. Based on the permittee's anticipated maximum average daily production of 600 tons or 1,200,000 lbs of tuna processed per day during the permit term, EPA establishes a maximum daily effluent limitation of 9,960 lbs/day, and a monthly average effluent limitation of 3,960 lbs/day for total suspended solids.

2. **Oil and Grease.** Pursuant to 40 CFR 408.142 and 408.47, effluent limitations are established for oil and grease and are based on BPT. As provided in 40 CFR 408.147, BCT limitations shall be the same as the BPT limitations. The ELGs for BPT for oil and grease include a daily maximum of 2.1 lbs/1,000 lbs of seafood processed per day and a 30-day average of 0.84 lbs/1,000 of seafood processed per day. The previous permit established oil and grease effluent limitations based on the average daily production of 454 tons of seafood processed per day. Based on the permittee's anticipated maximum average daily production of 600 tons or 1,200,000 lbs of tuna processed per day during the permit term, EPA establishes a maximum daily effluent limitation of 2,520 lbs/day, and a monthly average effluent limitation of 1,008 lbs/day for oil and grease.
  
3. **Compliance with Federal Anti-Backsliding Regulations and American Samoa Antidegradation Policy for Proposed Technology-based Effluent Limitations.** ELGs provide the basis for technology-based effluent limits in the draft permit. Section 402(o) of the CWA prohibits the renewal or reissuance of a NPDES permit that contains technology-based effluent limits that are less stringent than those established in the previous permit, except as provided in 40 CFR 122.44(l). This is referred to as "anti-backsliding." The permit establishes less stringent mass-based technology-based effluent limitations for total suspended solids and oil and grease based on an estimated increase in the daily production level over the term of the permit (ELGs for seafood processors are production-based). 40 CFR 122.44(l)(1) allows for backsliding to technology-based effluent limitations in the permit since circumstances on which the previous permit were based, i.e., a lower production of processed tuna than projected in the next permit term, have materially and substantially changed since the time the existing permit was issued and would have constituted cause for a permit modification under 40 CFR 122.62(a).

Furthermore, as allowed by 40 CFR 122.45(b)(ii)(A)(1), EPA may include a condition establishing alternate permit limitations based on anticipated increases in production levels (not to exceed maximum production capability). EPA believes that the projected maximum production capability (not reflected as design production) will be a reasonable measure of the facility's actual production rate during the permit term.

The establishment of less stringent technology-based effluent limitations is subject to the anti-degradation requirements set forth in EPA's antidegradation policy at 40 CFR 131.12 and American Samoa's antidegradation policy in section 24.0202 of ASWQS. These regulations require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. ASWQS antidegradation's policy also states that "waters whose existing quality exceeds the level necessary to support existing uses shall not be degraded unless and until it is found that allowing lower water quality is necessary to accommodate important economic or social needs of the Territory. In no event, however, may water quality be degraded to an extent that it would interfere with or become injurious to existing uses." EPA has determined that the less stringent technology-based effluent limitations, resulting in an increase in mass-loadings of total suspended solids and oil and grease into Pago Pago Harbor, will not violate water quality standards and federal and territorial antidegradation provisions based on the following reasons:

- Receiving water monitoring data show that existing mass-loadings of oil and grease have not resulted in a violation of the narrative ASWQS which states that "the discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man";
- Receiving water monitoring data show that existing mass-loadings of total suspended solids have not resulted in a violation of the narrative ASWQS which states that "the discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits";
- The outer portion of Pago Pago Harbor is not listed as an impaired waterbody for total suspended solids, turbidity or oil and grease under section 303(d) of the CWA; and
- Section 24.0205(e)(1) of ASWQS describes Pago Pago Harbor as an embayment where water quality has been degraded from the natural condition; EPA believes that a permitted increase in mass loadings of oil and grease and total suspended solids will not cause additional degradation to the level of water quality in Pago Pago Harbor that would interfere with or become injurious to the protected uses of the harbor, as the proposed effluent limitations for oil and grease and total suspended should result in an overall reduction of actual mass loadings.

## B. Water Quality-Based Effluent Limitations ("WQBELs")

Pursuant to 40 CFR 122.44(d)(1), water quality-based effluent limitations, or WQBELs, are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard. Applicable water quality standards are established in the 2005 Revision of ASWQS (Administrative Rule No. 006-2005), which incorporated section 304(a) federal water quality criteria. Revisions to these standards were adopted by the American Samoa Environmental Protection Agency ("ASEPA") on January 18, 2006. These standards were subsequently approved by EPA.

1. **Determining the Need for WQBELs.** When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria within State (or Territory) water quality standards, the permitting authority uses procedures which account for existing controls on point and nonpoint sources of pollution, and the variability of the pollutant or parameter in the effluent. The sensitivity of species to toxicity testing, and, where appropriate, dilution of the effluent in the receiving water. EPA conducted a Reasonable Potential Analysis ("RPA") for each monitored pollutant or parameter in the effluent, except pH and temperature. The RPA was based on statistical procedures outlined in EPA's *Technical Support Document for Water Quality-based Toxics Control*, Second Printing, herein after referred to as EPA's TSD (EPA 1991). These statistical procedures result in the calculation of the potential maximum effluent concentration based on monitoring data provided by the permittee. Except for whole effluent toxicity, no flow-weighted composite effluent data representing the combined discharge from the two canneries were used, since each cannery is independently regulated by a NPDES permit. Due to the limited monitoring data available and the high degree of effluent variability, potential maximum effluent concentrations were estimated using a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99<sup>th</sup> percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD).

Section 24.0207 of ASWQS provide for the application of alternate standards within an area surrounding the discharge point, or zone of mixing, when it is not feasible to achieve an effluent quality that meets water quality standards at the point of discharge (i.e., end of the pipe). Although American Samoa EQC has approved the use of dilution credits for specific pollutants (see next section) in this discharge, for the purposes of RPA, dilution credits or mixing zones were not considered in the RPA so that EPA can better assess the discharge for potential pollutant excursions above water quality standards. EPA calculated the potential maximum observed effluent concentration for each pollutant, based on the data provided by the permittee, using the following steady-state mass balance equation:

$$MEC = C_e \times \text{reasonable potential multiplier factor.}$$

Where, "C<sub>e</sub>" is the reported maximum effluent value (in mg/l, ug/l, or TU) that is adjusted for uncertainty, using the statistical procedure previously discussed, to

determine the projected maximum effluent concentration or "MEC". The projected MEC is then compared directly to the applicable water quality criterion to determine reasonable potential. Table 3 provides a detailed RPA for each pollutant or parameter that causes, has the reasonable potential to cause, or contributes to an excursion above ASWQS.

- a. **Total Phosphorus.** Section 24.0205(m) of ASWQS provide that total phosphorus shall not exceed 0.0300 mg/l (as P) in Pago Pago Harbor. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of total phosphorus observed in the effluent (46.3 mg/l). Using the statistical procedures outlined in EPA's TSD, EPA determined a projected MEC of 46.3 mg/l. Since the projected receiving water concentration is greater than the water quality criterion, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for total phosphorus.
- b. **Total Nitrogen.** Section 24.0205(m) of ASWQS provide that total nitrogen shall not exceed 0.200 mg/l (as N) in Pago Pago Harbor. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of total nitrogen observed in the effluent (440 mg/l). Using the statistical procedures outlined in EPA's TSD, EPA determined a projected receiving water concentration of 440 mg/l. Since the projected MEC is greater than the water quality criterion, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for total nitrogen.
- c. **Total Ammonia.** ASWQS provide ambient water quality criteria for total ammonia for the protection of aquatic life in saltwater environments. Ammonia in aquatic environments exists in two forms, un-ionized ammonia ( $\text{NH}_3$ ) and the ammonium ion ( $\text{NH}_4^+$ ), of which the un-ionized form is the most toxic because it can easily diffuse across epithelial membranes of aquatic organisms. The degree of ammonia toxicity in saltwater environments is primarily a function of pH and temperature. The permittee discharges to Pago Pago Harbor, which generally has a pH of 8.2 and temperature of 28 degrees Celsius (ASEPA 2007). Using Appendix A of ASWQS, EPA has determined a CMC (acute) and CCC (chronic) of 2.2 and 0.33 mg/l<sup>2</sup>, respectively, as the applicable water quality criteria for total ammonia (as N), for the protection of aquatic life in Pago Pago Harbor. EPA assessed RP using the maximum concentration observed in the effluent (163.3 mg/l). In accordance with EPA's TSD, EPA calculated a MEC of 163.3 mg/l of total ammonia. Since the MEC is greater than the acute or chronic criterion for total ammonia, EPA has determined that there is reasonable potential for total ammonia to cause, or contributes to an exceedance of ASWQS.

---

<sup>2</sup>CCC and CMC for total ammonia in mg/l of nitrogen; the CCC and CMC of 2.7 and 0.404 mg/l of  $\text{NH}_3$ , respectively, in Appendix A of ASWQS were converted to mg/liter of nitrogen by multiplying the criterion by 0.822.

Table 3 – Summary of Reasonable Potential Analysis for Discharge Point No. 001 for the Starkist Samoa, Inc. facility.

Parameter	Units	Highest Maximum Daily Concentration	<i>n</i>	RP Multiplier <sup>1</sup>	Projected MEC	Water Quality Criterion	Exceeds Standard?
Total Phosphorus	mg/l	46.3	42	1.0	46.3	0.0300	Y
Total Nitrogen	mg/l	440	42	1.0	440	0.200	Y
Total Ammonia (as N) - Acute	mg/l	167.3	57	1.0	167.3	2.2	Y
- Chronic	mg/l	167.3	57	1.0	167.3	0.33	Y
Copper - Acute	ug/l	346	52	1.0	346	4.8	Y
- Chronic	ug/l	346	52	1.0	346	3.1	Y
Zinc - Acute	ug/l	4,740	52	1.0	4,740	90	Y
- Chronic	ug/l	4,740	52	1.0	4,740	81	Y
Total Mercury	ug/l	0.27	5	4.2	1.13	0.05	Y
Whole Effluent Toxicity	TU <sub>a</sub>	9.78	11	2.9	28.36	0.3	Y

<sup>1</sup>RP multiplier based on the coefficient of variation of 0.6 and the 99 percent confidence interval of the 99<sup>th</sup> percentile for  $n < 42$ . For  $n \geq 42$ , the RP multiplier is based on a 95 percent confidence level of the 95<sup>th</sup> percentile as described in Table F6-1 of Procedure 6 in Appendix F to Part 132- Great Lakes Water Quality Initiative Implementation Procedures

- d. **Copper.** Based on effluent monitoring data, copper has been detected in the effluent due to routine cannery operations. ASWQS provide acute and chronic criteria for copper for the protection of aquatic life. The CMC and CCC for copper is 4.8 and 3.1 ug/l, respectively. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration observed in the effluent (346 ug/l). As a result, EPA has determined the projected MEC of 346 ug/l. Since the MEC is greater than the CMC and CCC, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for copper.
- e. **Zinc.** Based on effluent monitoring data, zinc has been detected in the effluent due to routine cannery operations. ASWQS provide acute and chronic criteria for zinc for the protection of aquatic life. The CMC and CCC for zinc is 90 and 81 ug/l, respectively. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of zinc observed in the effluent (4,740 ug/l). As a result, EPA estimated the projected MEC of 4,740 ug/l. Thus, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for zinc.
- f. **Mercury.** Based on effluent monitoring data, mercury has been detected in the effluent. Section 24.0206(j) of ASWQS provide that the water column concentration of mercury shall not exceed 0.05 ug/l. In accordance with reasonable potential procedures outlined in EPA's TSD, the projected MEC was estimated using the maximum concentration of mercury observed in the effluent (0.27 ug/l). As a result, EPA estimated the projected MEC of 1.13 ug/l. Since the projected MEC is greater than the water quality criterion for mercury, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for mercury.
- g. **Whole Effluent Toxicity.** Pursuant to 40 CFR 122.2, whole effluent toxicity is defined as the aggregate toxic effect of an effluent measured directly by a toxicity test. There are two categories of whole effluent toxicity tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures mortality. A chronic toxicity test measures sublethal effects (e.g., impacts on reproduction and/or growth), in addition to mortality. ASWQS provide narrative water quality criteria that all territorial waters be "...substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life" (Section 24.0206(d) of ASWQS). This is often referred to as "no toxics in toxic amounts." The exiting permit requires acute toxicity testing of the combined cannery effluent.

In accordance with 40 CFR 122.44(d)(i) and EPA's TSD, EPA assessed the need for effluent limits for toxicity based on acute toxicity data (2001-2006) to determine reasonable potential for the combined facility effluents to cause an

excursion above the acute toxicity criterion. The existing permit did not establish a mixing zone for acute toxicity. Therefore, as specified in section 2.3.3 of EPA's TSD, the CMC is  $0.3 \text{ TU}_a$  ( $\text{TU}_a = 100 \div \text{LC}_{50}$ ) for acute protection of aquatic life and was applied at the end of the pipe for the purposes of RPA. Pursuant to the existing permit, acute toxicity tests were conducted using combined, 24-hour flow-weighted, composite effluent samples from the permittee and the COS Samoa Packing Company Inc. facility.

From March 2001 to March 2006, eleven acute toxicity tests were conducted jointly by the permittee and COS Samoa Packing Company Inc. based on flow-weighted samples collected from each facility and combined to assess joint toxicity. During this period, the maximum  $\text{TU}_a$  was observed in August 2002 and was reported as  $9.78 \text{ TU}_a$ .  $\text{TU}_a$ 's ranged from less than  $2.0 \text{ TU}_a$  to  $9.78 \text{ TU}_a$ . EPA defines toxic unit acute, or  $\text{TU}_a$ , as the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end of the acute exposure period (i.e.,  $\text{TU}_a = 100 \div \text{LC}_{50}$ ). The most toxic  $\text{LC}_{50}$  was reported as 10.23 percent effluent. The existing permit did not include any toxicity trigger values for assessing when the combined effluents were acutely toxic; however, based on the CMC of  $0.3 \text{ TU}_a$ , at least eight of the eleven tests, or at least 73 percent, exhibited acute toxicity values higher than the applicable water quality criterion of  $0.3 \text{ TU}_a$ . In accordance with the statistical procedures outlined in EPA's TSD, the projected MEC was estimated using the maximum value for acute toxicity observed in the joint cannery effluent ( $9.78 \text{ TU}_a$ ). As a result, EPA has determined the projected MEC of  $28.36 \text{ TU}_a$ . Since the projected MEC is greater than the acute toxicity criterion of  $0.3 \text{ TU}_a$ , EPA has determined that the combined discharges have a reasonable potential to cause, or contributed to an excursion of the narrative water quality criterion for acute toxicity.

On October 31, 2007, the permittee submitted information to EPA that concluded total ammonia as the primary source of acute toxicity. When it is determined that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above the narrative water quality standard for acute toxicity, federal regulations require that the permit establish effluent limitations to control for acute toxicity. However, as allowed by 40 CFR 122.44(d)(1)(v), limitations on whole effluent toxicity are not necessary where it can be demonstrated that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative water quality standards. EPA has reviewed the information provided by the permittee and believes that total ammonia, in addition to zinc, is the causative pollutant of acute toxicity. Therefore, as allowed by 40 CFR 122.44(d)(1)(iii) and (v), because the source of primary toxicity has been identified, the permit contains WQBELs for total ammonia and zinc that are adequate to control for acute toxicity. There are no requirements for whole effluent toxicity for acute toxicity in the permit.

At this time, there is inadequate information to assess whether the discharge of the combined cannery effluent has a reasonable potential to cause, or contribute to an



excursion above the narrative water quality criterion for chronic toxicity. The draft permit proposes as special study to assess chronic toxicity of the combined effluents (see **PART VII - SPECIAL CONDITIONS**).

2. **Application of Mixing Zones and Dilution Credits.** The CWA directs States to adopt water quality standards. Pursuant to 40 CFR 131.13, States are authorized to adopt general policies, such as mixing zones, to implement State water quality standards. Section 24.0207 of ASWQS allow the use of mixing zones for dischargers that would otherwise exceed water quality criteria for aquatic life, human health, and other water quality criteria at the point of discharge (i.e., end of the pipe). Zones of mixing are granted by the American Samoa EQC upon the finding that no other practicable means of waste treatment and disposal are available. ASWQS define a zone of mixing as a defined portion of the receiving water body around a point source within which specific modifications of applicable water quality standards are permitted by American Samoa EQC (section 24.0201 of ASWQS). Further, as specified in section 24.0207(a), a zone of mixing shall be limited to the smallest area possible as not to interfere with beneficial uses.

As regulatory constructs, mixing zones are areas generally where an effluent discharge undergoes initial dilution, but can sometimes be extended to cover secondary mixing in the ambient water body. Initial dilution is the process that results in rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most industrial wastes discharged from submarine discharge points, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution, in this case, is complete when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

ASWQS have criteria for determining whether a zone of mixing can be granted for point source discharges. These include, but are not limited to, the following:

- For toxic pollutants, the size of any zone of mixing shall not exceed the dimensions and volume of the zone of initial dilution and in no event shall the concentration of a toxic pollutant exceed chronic toxic levels at the boundary of the zone of initial dilution (section 24.0207(b)(6) of ASWQS).<sup>3</sup> Except for limited portions of the zone of initial dilution, acute toxic standards shall be achieved within the zone of initial dilution;
- The narrative standards set forth in section 24.0206(a-d) shall be met at the boundary of the zone of initial dilution. (An example of a narrative standard is that all territorial waters, including open coastal waters, shall be substantially free from substances and conditions or combinations therefore attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other

---

<sup>3</sup>Pursuant to section 24.0201 of ASWQS, zone of initial dilution is defined as the area of a plume where dilution is achieved due to the combined effects of momentum and buoyancy of the effluent discharged from an orifice.

animals, plants and aquatic life or produce undesirable aquatic life. This narrative statement is often referred to as "no toxics in toxic amounts."); and

- Alternate standards may be established within a zone of mixing for those standards set forth at section 24.0206(h), (j), (l), (m), (o), and (p); provided that the standards shall be met at the boundary of the zone of mixing. (Section 24.0206(m) refers to ambient water quality criteria for Pago Pago Harbor, which applies to the proposed discharge.) This area can be larger than the zone of initial dilution.

The existing permit contains mixing zones for total nitrogen, total phosphorus, total ammonia, copper, and zinc. On April 15, 2007, the permittee applied to the American Samoa EQC for a renewal of mixing zones for total nitrogen, total phosphorus, total ammonia, copper, and zinc for Discharge Point No. 001. A subsequent application with a more formal analysis was submitted on June 28, 2007. In the mixing zone re-application, the permittee also requested a new mixing zone for mercury. In the reapplication, the permittee indicated that there have been no changes in diffuser configuration; and that the initial seawater to effluent dilution ratio of 313:1 and farfield transport simulations that were re-modeled on critical conditions in 2001 for the existing permit currently applies. In 2001, the critical initial dilution was re-modeled based on an increase in combined total flow from both canneries from 3.62 to 4.3 MGD. The change resulted in a decrease in a critical initial dilution from 337:1 to 313:1 (gdc 2007). There is no increase in the wastewater flow proposed by the permittee or adjacent COS Samoa Packing Company, Inc. facility to Discharge Point No. 001 that would alter the critical initial dilution factor during the draft permit period. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request in its entirety. However, on October 28, 2007, the permittee submitted a revised mixing zone request for a larger zone of mixing for total ammonia. On December 18, 2007, the American Samoa EQC approved the permittee's revised mixing zone request for total ammonia.

Based on ASEPA's mixing zone approval for the draft permit, EPA re-assessed the availability of dilution in the receiving water for nutrients, total ammonia, copper, zinc, and mercury. The assessment was based on recent effluent and ambient water quality data submitted by the permittee pursuant to requirements of the existing permit. For the nutrients, total phosphorus and total nitrogen, the median concentration in the ambient water was used to determine the availability of dilution since nutrients are not directly toxic to aquatic life but may cause significant impacts, i.e., phytoplankton blooms, in ambient waters due to the overall nutrient enrichment. For toxic pollutants, such as total ammonia, copper, zinc, and mercury, the maximum concentration in the effluent and receiving water was evaluated independently to ensure the protection of aquatic life and human health.

**a. Evaluation of Available Dilution for Total Phosphorus and Total Nitrogen.**

The request for a mixing zone for the nutrients, total phosphorus and total nitrogen, is based on elevated concentrations observed in the effluent. As part of

the permit renewal, EPA assessed the available dilution for total nitrogen and total phosphorus in the receiving water. During January 2002 to December 2005, daily maximum concentrations of total nitrogen in the effluent ranged from 37.0 to 440.0 mg/l, with the highest concentration reported in January 2002. During the same period, daily maximum concentrations of total phosphorus in the effluent ranged from 11.5 to 46.3 mg/l, with the highest concentration reported also in January 2002. Without dilution credits or a mixing zone for nutrients, the discharge would not be able to meet ASWQS of 0.200 or 0.030 mg/l for total nitrogen or total phosphorus, respectively.

To assess assimilative capacity for nutrients in the receiving water, total nitrogen and total phosphorus concentrations collected from March 2001 to August 2005 were evaluated in the water column at the boundary of the ZID (Stations 8 and 8A), boundary of the existing mixing zone for nutrients (Stations 15 and 16), and at the reference site (Station 5). For total nitrogen, review of receiving water monitoring data show concentrations at the boundary of the ZID ranging from 0.035 to 1.264 mg/l, with a median of 0.112 mg/l. At the boundary of the mixing zone for total nitrogen, concentrations ranged from 0.035 to 0.517 mg/l, with a median of 0.11 mg/l. At the reference site, total nitrogen concentrations ranged from 0.035 to 1.11 mg/l, with a median of 0.118 mg/l. For total phosphorus, receiving water monitoring data show concentrations at the boundary of the ZID ranging from at or below the detection limit of 0.005 to 1.1 mg/l, with a median of 0.022 mg/l. Concentrations at the boundary of the mixing zone for total phosphorus ranged from at or below the detection limit to 0.043 mg/l, with a median of 0.02 mg/l. At the reference site, total phosphorus concentrations also ranged at or below the detection limit to 0.071 mg/l, with a median of 0.02 mg/l.

Based on the median concentrations of total nitrogen and total phosphorus in the water column at the boundary of the ZID and nutrient mixing zone, and at the reference site, it appears that there is assimilative capacity in the receiving water for nutrients since median receiving water concentrations are below the water quality criteria.<sup>4</sup> It is important to note that although single concentrations of total nitrogen and total phosphorus were observed above their respective water quality criterion at various depths throughout the water column during the four-year monitoring period, there is no record of algal blooms or any impact to aquatic life due to these elevated concentrations. Furthermore, during the same monitoring period, there was no pattern in the concentrations between the levels of chlorophyll-a, an indicator of algal growth, and elevated concentrations of nutrients. Therefore, it appears that there is assimilative capacity in the receiving water for nutrients.

- b. **Evaluation of Available Dilution for Total Ammonia (as N).** The request for a mixing zone for total ammonia is based on elevated concentrations observed in

---

<sup>4</sup> Assimilative capacity for nutrients was based on the median concentration since ASEPA determines compliance with ambient water quality standards provided in section 24.0210 of ASWQS utilizing the median only.

the effluent. Based on effluent monitoring data from January 2002 to December 2006, daily maximum total ammonia concentrations ranged from 17.0 to 167.3 mg/l. Without dilution credits or a mixing zone for total ammonia, the discharge would not be able to meet ASWQS at the end of the pipe based on the CMC of 2.2 and CCC of 0.33 mg/l of ammonia as nitrogen.<sup>5</sup> Based on receiving water monitoring data (March 2001 to August 2005), concentrations of total ammonia at the reference site ranged from at or below the detection limit of 0.004 to 0.11 mg/l, with a median of 0.005 mg/l. At the boundary of the ZID, total ammonia concentrations ranged from 0.004 to 0.13 mg/l, also with a median of 0.005 mg/l. Since the receiving water concentrations of total ammonia are less than the water quality criteria, there is assimilative capacity in the receiving water for total ammonia.

- c. **Evaluation of Available Dilution for Copper.** The request for a mixing zone for copper is based on elevated concentrations observed in the effluent due to routine cannery operations. During January 2002 to December 2006, daily maximum copper concentrations in the effluent ranged from less than the detection limit of 10 ug/l to 346 ug/l. Without dilution credits or a mixing zone for copper, the discharge would not be able to meet the CMC or CCC at the end of the pipe for copper, which is 4.8 and 3.1 ug/l, respectively.<sup>6</sup> To assess assimilative capacity for copper in the receiving water, copper concentrations were evaluated in the water column at the boundary of the ZID and at the reference site. Receiving water collected from March 2001 to February 2007 at the boundary of the ZID showed concentrations of copper ranging from 0.10 to 1.63 ug/l. At the reference site, copper concentrations ranged from 0.12 to 0.88 ug/l. Since the maximum concentration of copper in the receiving water is below the water quality criteria, there is assimilative capacity in the receiving water for copper.
- d. **Evaluation of Available Dilution for Zinc.** Similar to copper, the request for a mixing zone for zinc is based on elevated concentrations of zinc observed in the effluent due to routine cannery operations. During January 2002 to December 2006, daily maximum zinc concentrations in the effluent ranged from 123 to 4,740 ug/l. Without dilution credits or a mixing zone for zinc, the discharge would not be able to meet the CMC or CCC for zinc, which is 90 and 81 ug/l, respectively. Receiving water collected from March 2001 to February 2007 at the boundary of the ZID showed zinc concentrations of 0.4 to 19.3 ug/l. At the reference station, zinc concentrations ranged from 0.5 to 10.8 ug/l. Since the maximum receiving water concentration of zinc is below the water quality criteria, there is assimilative capacity in the receiving water for zinc.
- e. **Evaluation of Available Dilution for Mercury.** The request for a mixing zone for mercury is based on elevated concentrations of mercury observed in the

---

<sup>5</sup>CMC for ammonia-N are derived from Appendix A of ASWQS and correspond to a pH of 8.2 and temperature of 28 degrees Celsius based on general observations and data collected from ASEPA.

<sup>6</sup>This criterion is based on the CMC for the protection of aquatic life from acute toxicity in saltwater environments.

effluent. From September 2004 through November 2006, five samples of effluent were analyzed for total mercury. During this period, mercury concentrations ranged from 0.064 to 0.27 ug/l. Without dilution credits or a mixing zone for mercury, the discharge would not be able to meet the mercury water quality criterion of 0.05 ug/l at the end of the pipe. To assess assimilative capacity for mercury in the receiving water, mercury concentrations were evaluated in the water column near the outfall (at the boundary of the ZID) and at the reference site. Receiving water monitoring data collected in October 2001 and from February 2006 to February 2007 at the boundary of the ZID showed mercury concentrations ranging from 0.0007 to 0.0193 ug/l. Receiving water monitoring data collected from March 2001 to February 2007 at the reference site showed mercury concentrations ranging from 0.0010 to 0.0466 ug/l. Since receiving water concentrations at the boundary of the ZID and reference site are lower than the ASWQS, it appears that there is an assimilative capacity for mercury in the water column of the receiving water.

3. **Establishing WQBELs.** In accordance with 40 CFR 122.44(d), the draft permit proposes water quality-based effluent limits ("WQBELS") for several pollutants or parameters since EPA has determined, based on effluent data provided by the permittee and the nature of the discharge, that the effluent discharged from the facility causes, has the reasonable potential to cause, or contributes to an exceedance of ASWQS. EPA has determined that effluent from the Starkist Samoa, Inc. facility, when discharged through Discharge Point No. 001, demonstrates reasonable potential to exceed water quality standards for total nitrogen, total phosphorus, total ammonia, copper, zinc, and mercury. Therefore, in accordance with federal regulations, WQBELs for these pollutants are established using the median background concentration determined at the reference site, and with consideration of dilution credits or a mixing zone (as authorized by American Samoa EQC).

The existing permit establishes WQBELs for toxic pollutants using a permit limit derivation procedure which directly implements the acute waste load allocation ("WLA") as a MDL and the chronic WLA as an AML. EPA discourages the use of this approach since effluent variability has not been taken into account and that the possibility exists for the exceedance of the WLA due to effluent variability (section 5.4.2 of EPA's TSD). Rather, EPA recommends the use of a permit limit derivation procedure where the acute, chronic, and human health WLAs are statistically translated into an MDL and AML based on the more stringent acute, chronic, or human health WLA (section 5.4.1 of EPA's TSD). As described in section 5.2.2 of EPA's TSD, WQBELs for NPDES dischargers are established based on the need to maintain effluent quality for a pollutant at a level that will comply with water quality standards even during critical conditions in the receiving water. This level is determined by the WLA for the particular pollutant. The WLA, in turn, dictates the necessary treatment performance level for the pollutant through the calculation of a long-term average ("LTA") to ensure that the WLA is met under critical conditions over a long-term period.

Table 4 - Comparison of Dilution Factors used to establish Water Quality-based Effluent Limitations for Discharge Point No. 001 or Joint Cannery Outfall for the StarKist Samoa, Inc. facility.

Parameter	Dilution Factors in Previous Permit	Dilution Factors in Proposed Permit
Total Ammonia (as N)	313:1	313:1
Copper	25:1	25:1
Zinc	25:1	25:1
Mercury	---	40:1

In the permit, calculations of permit limitations are based on statistical procedures outlined in section 5.4.1 and 5.4.4 of EPA's TSD and are expressed as a Maximum Daily Limitation ("MDL") or Average Monthly Limitation ("AML"). Where appropriate, mass-based MDLs and AMLs were calculated based on the waste water treatment's design flow of 2.9 MGD. Attachment D provides an example of the permit limit derivation procedure for this discharge. Table 4 provides a summary of dilution factors applied in the previous permit and those approved by American Samoa EQC for application in the permit. However, there are no dilution factors that describe the mixing zone total nitrogen and total phosphorus. Rather, an alternative approach was used in the previous permit to determine the mixing zone for nutrients and the same approach applied in the permit with a special condition for the permittee to re-evaluate nutrient loading in Pago Pago Harbor. In addition, for all reissued permits, section 402(o) of the CWA and 40 CFR 122.44(l) require WQBELs and other permit conditions to be as stringent as the previous permit unless specific exceptions apply. The permit contains no specific exceptions for WQBELs. Table 9 provides a summary of all WQBELs, monitoring frequency, and sample types for each pollutant or parameter in the permit that was shown reasonable potential to cause, or contribute to an exceedance of ASWQS.

- a. **pH.** As provided in 40 CFR 408.142, ELGs for tuna processing provide that the pH be within the range 6.0 to 9.0 standard units. Section 24.0205(m) of ASWQS provide that the pH for Pago Pago Harbor shall be 6.5 to 8.6 and be within 0.2 pH units of that which would occur naturally. In accordance with 40 CFR 122.44(d), the more stringent limitation applies. Therefore, the WQBEL for pH is the range of 6.5 to 8.6 standard units.
- b. **Temperature.** Section 24.0206(e) of ASWQS provide that the temperature for all territorial waters shall not deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally and shall not fluctuate more than 1 degree Fahrenheit on an hourly basis or exceed 85 degrees Fahrenheit due to the influence of natural causes. The existing permit established a MDL and AML of 95 and 90 degrees Fahrenheit, respectively. Therefore, the WQBEL for temperature is 95 degrees Fahrenheit for the MDL and 90 degrees Fahrenheit for the AML.

- c. **Total Phosphorus.** The previous permit established a zone of mixing larger than the ZID for total phosphorus as allowed by section 24.0206(b)(8) of ASWQS. The previous permit incorporated a zone of mixing defined as either a boundary in a circle with a radius of 1,300 feet from the center of the diffuser, or the 30-foot depth contour, whichever is closer to the diffuser (Attachment E). The diffuser and zone of mixing location and geometry for total phosphorus were designed to meet the assimilative capacity of nutrients in Pago Pago Harbor. Historic mass-loading modeling conducted by the permittee in the early 1990s determined that the mixing zone for nutrients would be able to assimilate 12,000 lbs/month of total phosphorus from the canneries discharges. Model estimates concluded that there was excess capacity for total phosphorus and, therefore, the mixing zone is sized to account for future increases in cannery production and nutrient loading. On July 12, 2007, the American Samoa EQC re-approved the permittee's mixing zone request based on the historic mass loading results for total phosphorus. To date, there has been no estimate of dilution at the edge of the currently established nutrient zone of mixing to adequately determine a waste load allocation for the StarKist Samoa Inc. effluent based on procedures outlined in section 5 of EPA's TSD. Rather, based on historic mass loading modeling results, EPA re-establishes the mass loading effluent limits of 309 and 192 lbs/day, as the MDL and AML, respectively.
- d. **Total Nitrogen.** Similar to total phosphorus, the previous permit established the same zone of mixing for total nitrogen. Historic mass-loading modeling conducted by the permittee in the early 1990s determined that a mixing zone for nutrients would be able to assimilate 60,000 lbs/month of total nitrogen from the canneries' discharges. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request to re-establish the previous mixing zone for total nitrogen that was based on a mass loading model and assimilative capacity of the Pago Pago Harbor. Based on historic mass loading modeling results, EPA re-establishes the mass loading effluent limits of 2,100 and 1,200 lbs/day, as the MDL and AML, respectively.
- e. **Total Ammonia.** Appendix A of ASWQS provides ammonia toxicity standards for marine waters, such as Pago Pago Harbor. Based on the aquatic life criteria for acute and chronic ammonia toxicity in saltwater listed in Appendix A and using the general ambient pH of 8.2 and temperature of 28 degrees Celsius within Pago Pago Harbor, EPA calculated a CMC and CCC of 2.2 and 0.33 mg/l of ammonia as nitrogen, respectively. On December 18, 2007, the American Samoa EQC approved the permittee's revised mixing zone request of 313:1 dilution for total ammonia. A summary of WQBEL calculations and final effluent limitations for total ammonia are provided in Table 5. With consideration of dilution, EPA establishes a MDL and AML for total ammonia of 167.26 and 83.36 mg/l, respectively, for the protection of the beneficial use of saltwater aquatic life. In addition, EPA establishes a mass-based MDL and AML of 4,045 and 2,016 lbs/day.

Table 5 - WQBEL Calculations for Total Ammonia.

	Acute	Chronic
Aquatic Life Criteria, mg/l nitrogen	2.2	0.33
Dilution Credit Authorized by ASEQC	313:1	313:1
Background Concentration, mg/l <sup>1</sup>	0.005	0.005
WLA, mg/l	689.23	102.05
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, mg/l	221.24	53.78
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	--	3.11
MDL, mg/l	--	167.26
MDL, lbs/day	--	4,045
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	--	1.55
AML, mg/l	--	83.36
AML, lbs/day	--	2,016

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

- f. **Copper.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002b or the most recent version, except as may be allowed by a zone of mixing as specified in section 24.0207. The more stringent of the criteria for copper is the aquatic life criteria. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 25:1 dilution for copper. A summary of WQBEL calculations and final effluent limitations for copper are provided in Table 6. With consideration of dilution, EPA establishes a MDL and AML of 117.22 and 58.42 ug/l, respectively, for copper. In addition, EPA proposes a mass-based MDL and AML of 2.84 and 1.41 lbs/day.
- g. **Zinc.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002b or the most recent version, except as may be allowed by a zone of mixing specified in section 24.0207 of ASWQS. The more stringent of the criteria for zinc is the aquatic life criteria. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 25:1 for zinc. A summary of the WQBEL calculations and final MDL and AML for zinc are provided in Table 7. With consideration of dilution, EPA establishes a MDL and AML of 2,284 and 1,138 ug/l, respectively, for zinc. In addition, EPA establishes a mass-based MDL and AML of 55.24 and 27.52 lbs/day.



Table 6 - WQBEL Calculations for Copper.

	Acute	Chronic
Aquatic Life Criteria, ug/l	4.8	3.1
Dilution Credit Authorized by ASEQC	25:1	25:1
Background Concentration, ug/l <sup>1</sup>	0.296	0.296
WLA, ug/l	117.4	73.2
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, ug/l	37.69	38.58
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11	--
MDL, ug/l	117.22	--
MDL, lbs/day	2.84	--
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	1.55	--
AML, ug/l	58.42	--
AML, lbs/day	1.41	--

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

Table 7 - WQBEL Calculations for Zinc.

	Acute	Chronic
Aquatic Life Criteria, ug/l	90	81
Dilution Credit Authorized by ASEQC	25:1	25:1
Background Concentration, ug/l <sup>1</sup>	2.093	2.093
WLA, ug/l	2,287.675	2,028.675
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, ug/l	734.34	1,069.11
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11	--
MDL, ug/l	2,284	--
MDL, lbs/day	55.24	--
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	1.55	--
AML, ug/l	1,138	--
AML, lbs/day	27.52	--

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

- h. **Total Mercury.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002 or the most recent version, except as may be allowed by a zone of mixing specified in section 24.0207 of ASWQS. The more stringent of the criteria for mercury is the human health criteria. Section 24.0206(j) of ASWQS provide that the water column concentration of mercury shall not exceed 0.05 ug/l, except as may be allowed by a zone of mixing (section 24.0207 of ASWQS). On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 40:1

Table 8 - WQBEL Calculations for Mercury.

	Human Health
Water Column Criterion, ug/l	0.05
Dilution Credit Authorized by ASEPA	40:1
Background Concentration, ug/l <sup>1</sup>	0.0062
WLA, ug/l	1.802
AML = WLA, ug/l <sup>2</sup>	1.80
AML = WLA, lbs/day	0.04
AML Multiplier (95 <sup>th</sup> %) <sup>3</sup>	2.62
MDL, ug/l	4.72
MDL, lbs/day	0.11

<sup>1</sup>Background concentration based on the median concentration at reference station

<sup>2</sup>Based on section 5.4.4 of EPA's TSD, EPA Recommendations for Permitting for Human Health Protection

<sup>3</sup>The AML Multiplier was determined from Table 5-3 of EPA's TSD for bioaccumulative pollutants based on the sampling frequency of 30 times per month since water quality criterion is based on chronic 30-day (section 5.5.3 of EPA's TSD).

dilution for total mercury. A summary of the WQBEL calculations and final AML and MDL for total mercury are provided in Table 10. With consideration of dilution, EPA establishes a MDL and AML for mercury of 4.72 and 1.80 ug/l, respectively. In addition, EPA establishes a mass-based MDL and AML of 0.11 and 0.04 lbs/day. This is a new WQBEL.

4. **Compliance with Federal Anti-Backsliding Provisions and American Samoa's Antidegradation Policy for Proposed WQBELS.** Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains WQBELs less stringent than those established in the previous permit, except as provided in the statute. This is referred to as "anti-backsliding." The permit establishes numeric WQBELs that are sometimes higher for total ammonia, copper, and zinc than those established in the previous permit. These effluent limitations may be relaxed, following section 402(o)(2)(b)(i) of the CWA, because they are based on new information not available at the time of permit reissuance that would have justified less stringent WQBELs (i.e., the application of revised background concentrations, in conjunction with EPA's recommended limit derivation procedures applied for the first time to this discharge) and since the more stringent numeric average monthly limits for these pollutants will necessitate an overall reduction in mass emission rates to Pago Pago Harbor.

The establishment of less stringent water quality-based effluent limitations for the maximum daily limitation for total ammonia, copper, and zinc is subject to the anti-degradation requirements set forth in EPA's antidegradation policy at 40 CFR 131.12 and American Samoa's antidegradation policy in section 24.0202 of ASWQS. EPA believes that the more stringent numeric average monthly limits for these pollutants will result in the discharge's overall compliance with water quality standards and federal and territorial antidegradation provisions.

Table 9 - Effluent limitations and monitoring, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Previous Permit Effluent Limitations		Permit Effluent Limitations <sup>1</sup>		Monitoring Requirements	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	--	2.9	--	--	Continuous	Metered
pH	std. units	6.5	8.6	6.5 <sup>2</sup>	8.6 <sup>3</sup>	Continuous	Continuous
		The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.					
Temperature	°F	90	95	90	95	Continuous	Continuous
Biological Oxygen Demand	mg/l	--	--	--	--	Once/Week	24-hr Composite
Total Suspended Solids	lbs/day	2,996	7,536	3,960	9,960	Once/Week	24-hr Composite
Oil and Grease	lbs/day	763	1,907	1,008	2,520	Once/Week	Grab
Total Nitrogen	lbs/day	1,200	2,100	1,200	2,100	2x/Week <sup>4</sup>	24-hr Composite
Total Phosphorus	lbs/day	192	309	192	309	2x/Week	24-hr Composite
Total Ammonia (as N)	mg/l	--	133	83.36	167.26	Once/Week	24-hr Composite
	lbs/day	--	--	2,016	4,045	Once/Week	24-hr Composite
Mercury (total recoverable)	ug/l	--	--	1.80	4.72	Semi-Annual	24-hr Composite
	lbs/day	--	--	0.04	0.11	Semi-Annual	24-hr Composite
Copper (total recoverable)	ug/l	66	108	58.42	117.22	Semi-Annual	24-hr Composite
	lbs/day	--	--	1.41	2.84	Semi-Annual	24-hr Composite
Zinc (total recoverable)	ug/l	1,545	1,770	1,138	2,284	Semi-Annual	24-hr Composite
	lbs/day	--	--	27.52	55.24	Semi-Annual	24-hr Composite

<sup>1</sup>Mass-based effluent limitations for total ammonia, total mercury, copper, and zinc based on the facility's design flow of 2.9 MGD

<sup>2</sup>Instantaneous Minimum

<sup>3</sup>Instantaneous Maximum

<sup>4</sup>Monitoring frequency based on sampling 2x per week for total nitrogen and total phosphorus means 24-hour composite samples are collected twice on production days only during a 7-day period.

## **PART V – DETERMINATION OF NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS**

Section 24.0206 of ASWQS contain narrative water quality standards that apply to all territorial waters including but not limited to fresh surface waters, ground waters, embayments, open coastal waters, and oceanic waters of the Territory. On February 11, 2008, the permittee requested zones of mixing for dissolved oxygen, turbidity, and light penetration from the American Samoa government in accordance with section 24.0207 of ASWQS. On February 20, 2008, ASEPA approved mixing zones for these parameters as reflected below.

The permit establishes the following narrative water quality-based effluent limits in the receiving water based on narrative ASWQS:

- A. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce objectionable color, odor, or taste, either of itself or in combinations, or in the biota;
- B. The discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man;
- C. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits;
- D. The discharge shall be substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life;
- E. The discharge shall not cause the temperature in the receiving water deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally and shall not fluctuate more than 1 degree Fahrenheit on an hourly basis or exceed 85 degrees Fahrenheit due to the influence of other than natural causes;
- F. The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002 or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury, and ammonia;
- G. The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units at and beyond the zone of initial dilution;

- H. The discharge shall not cause the light penetration depth to be less than 65.0 feet. The light penetration depth in Pago Pago Harbor shall be 65.0 feet at and beyond the zone of initial dilution, which shall be exceeded fifty percent of the time; and
- I. The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l at and beyond the zone of initial dilution. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.

The permit establishes the following narrative water quality-based effluent limits at the boundary of the zone of mixing for mercury based on narrative ASWQS:

- A. The discharge shall not cause the water column concentration of mercury to exceed 0.05 ug/l.

The permit establishes the following narrative water quality-based effluent limits at the boundary of the zone of mixing for nutrients based on narrative ASWQS:

- A. The discharge shall not cause the total phosphorus concentration in the receiving water beyond the boundary of the zone of mixing to exceed 30.0 ug/l as phosphorus;
- B. The discharge shall not cause the total nitrogen concentration in the receiving water beyond the boundary of the zone of mixing to exceed 200.0 ug/l as nitrogen; and
- C. The discharge shall not cause the concentration of chlorophyll-*a* to exceed 1.0 ug/l.

## **PART VI - MONITORING AND REPORTING REQUIREMENTS**

The permit requires the permittee to continue to monitor for pollutants or parameters with technology-based effluent limits (i.e., total suspended solids and oil and grease) and water quality-based effluent limits (i.e., pH, copper, zinc, etc.) in the effluent for the duration of the permit term.

### **A. Effluent Monitoring and Reporting**

The permittee shall conduct effluent monitoring to evaluate compliance with the permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit. All monitoring data shall be reported on DMR forms and submitted quarterly or semi-annually, as specified in the permit.

### **B. Priority Toxic Pollutants Scan**

A Priority Toxics Pollutants scan shall be conducted during the fourth or fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall

perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the permit or EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

**C. Outfall Monitoring and Reporting**

The permittee, in coordination with COS Samoa Packing Company, Inc., shall conduct outfall monitoring to evaluate the condition of the Joint Cannery Outfall. During the permit period the outfall must be inspected along its entire length, from, and including, the discharge connection at the pump(s) for each of StarKist Samoa, Inc. and COS Samoa Packing Company, Inc. facilities, to the junction of the StarKist Samoa, Inc. and COS Samoa Packing Company, Inc. discharge lines, and from the junction of the lines to the diffuser cap at the termination of the outfall.

The inspection shall include complete video recording of all submerged piping, anchors, fastening hardware, cathodic protection, diffuser ports, and diffuser end cap. The video recording shall include an audio portion that describes in detail the video captured. Where piping is located above the water surface still photographs shall be acceptable.

All circumstances that may possibly threaten the integrity of the outfall, and which may impede its normal operation and function, in the present or future, such as deteriorated hardware and fasteners, anchoring, pipe alignment, or the presence of debris, shall be specifically highlighted in the inspection report.

**PART VII - STANDARD CONDITIONS**

**A. Reopener Provision**

In accordance with 40 CFR 122 and 124, the final permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

**B. Standard Provisions**

The permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated July 1, 2001.

**PART VIII - SPECIAL CONDITIONS**

**A. Development and Implementation of Best Management Practices**

Pursuant to 40 CFR 122.44(k)(4), EPA may impose Best Management Practices (“BMPs”) which are “reasonably necessary...to carry out the purposes of the Act.” The

pollution prevention requirements or BMPs proposed in the permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. Therefore, the permit requires that the permittee develop (or update) and implement a Pollution Prevention Plan with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Pago Pago Harbor and other surface waters while performing normal processing operations at the facility.

The permittee shall develop and implement BMPs that are necessary to control total suspended solids and oil and grease.

**B. Development and Implementation of a Toxic Pollutant Minimization Program**

The permittee is required to develop and implement a Pollutant Minimization Plan. As specified in the permit, the permittee must submit a workplan to EPA and ASEPA no later than one year after the effective date of the permit and implement the Pollutant Minimization Plan in year four and five of the five-year permit term. For the purposes of the plan, toxic pollutants include, but are not limited to, copper, zinc, and mercury. Copper, zinc, and mercury have been observed in the effluent at high concentrations due to routine cannery operations. Although mixing zones for these pollutants have been approved by American Samoa EQC, the permittee shall make every effort to identify the sources of these pollutants within the facility and develop a program to minimize their entry into the facility's wastewater and subsequent discharge to the receiving water. The goal of the toxic pollutant minimization program shall be to achieve as soon as practicable for the discharge to meet water quality standards copper, zinc, and mercury with a minimal mixing zone.

**C. Development and Implementation of Pago Pago Receiving Water Monitoring Program**

Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impact of the discharge on the receiving water. Pursuant to the previous permit, the permittee established a joint Pago Pago Receiving Water Monitoring Program with COS Samoa Packing Company, Inc. that included water column and sediment monitoring, coral reef surveys, and a bioaccumulation fish tissue study throughout Pago Pago Harbor. EPA has reviewed the information collected from this monitoring program and proposes a revised receiving water monitoring program in the permit that includes the following requirements:

1. The permittee shall conduct semi-annual receiving water monitoring that corresponds to tradewind and non-tradewind seasons;
2. The permittee shall monitor at the following previously established receiving water monitoring locations the specified pollutant or parameter at three depths, i.e., surface, mid-depth and bottom depth:

- a. Reference site, Station 5, for monitoring of background concentrations for total phosphorus, total nitrogen, zinc, copper, total mercury, and total ammonia;
- b. End of the Pipe, Station 14, for monitoring of zinc, copper, total mercury, total ammonia to evaluate mixing zones within the zone of initial dilution;
- c. Zone of initial dilution, Stations 8 and 8A, for monitoring of zinc, copper, total mercury, and total ammonia to evaluate their respective mixing zones that were authorized for this permit term; Stations 8 and 8A are located at the boundary of the zone of initial dilution;
- d. Zone of initial dilution, Stations 8 and 8A, for monitoring of light penetration and dissolved oxygen to determine compliance with narrative WQBELs and ASWQS;
- e. Zone of mixing, Station 16, for monitoring of total phosphorus, total nitrogen, and light penetration to evaluate the size of the mixing zone for nutrients that was authorized for this permit term and to determine compliance with narrative WQBELs; Station 16 is located at the boundary of the zone of mixing;
- f. All stations at the zone of initial dilution and zone of mixing for monitoring of visible floating materials, grease, oil, scum or foam; and
- g. All stations at the zone of initial dilution, zone of mixing, and reference site vertical profiles of temperature, salinity, light penetration, and dissolved oxygen to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

D. Assessment of Nutrient Loading and Assimilative Capacity in Pago Pago Harbor

No dilution factors are currently available to accurately assess the size of the mixing zone for nutrients and establish water quality-based effluent limitations based on statistical procedures outline in EPA's TSD in the permit. The effluent limitations for total nitrogen and total phosphorus are re-established in the permit from previous permit limitations based on information derived from several mass-based models and subsequent dye studies conducted in the early 1990s. These models determined that a mixing zone boundary set at 1,300 feet from the diffuser, or the 30-foot depth contour, whichever is closer, would be able to assimilate 60,000 lbs/month of total nitrogen and 12,000 lbs/month of total phosphorus from the canneries discharges. For total nitrogen, assuming a 30-day month, approximately 2,000 lbs/day could be discharged between the two canneries, with the discharge still meeting water quality standards. For total phosphorus, approximately 400 lbs/day could be discharged. Consequently, StarKist Samoa Inc. and COS Samoa Packing Company, Inc. agreed to portion the total mass between them, for which permit effluent limitations were established.



Although nutrients discharged from the combined cannery outfall may not be significantly impacting water quality in Pago Pago Harbor based on receiving water monitoring data, EPA believes that it is important to re-assess nutrient loading from the canneries due to the availability of new effluent and water quality data, and advanced modeling applications that have been developed since the early 1990s. The purpose of the assessment is to determine whether the previous mass-based effluent limitations for nutrients were set at the upper bounds of acceptable performance or the WLA. For water quality-based water quality standards, such as those for nutrients approved as part of ASWQS, effluent limits must be based on maintaining the effluent quality at a level that will comply with water quality standards, even during critical conditions in the receiving water (EPA 1991). The level of treatment necessary to meet the water quality standard is determined by the WLA. Once a WLA has been developed, accounting for all appropriate considerations, a water quality-based permit can be derived to enforce the WLA. It was not clear whether the previous mass-based effluent limitations for nutrients were based on WLAs necessary to protect water quality standards.

The permit requires the permittee, in coordination with COS Samoa Packing Company, Inc., to conduct an assessment of nutrient loading and the existing mixing zone for nutrients. The permit requires the permittee, in coordination with COS Samoa Packing Company, Inc., to submit a brief workplan (no more than five pages) that describes the techniques and procedures it will use to assess nutrient loading in the receiving water. The permit requires that permittee to submit the workplan to EPA and ASEPA no later than one year after the effective date of the permit and that the assessment is completed no later than the end of the third year of the permit cycle. The final report is due to EPA and ASEPA no later than the end of the third year of the permit cycle.

#### E. Chronic Toxicity Special Study

No chronic toxicity data is currently available for the combined cannery effluent discharged from the Joint Cannery Outfall. Since StarKist Samoa Inc. and COS Samoa Packing Company, Inc. share the same outfall and, therefore, individually discharge effluent to Discharge Point No. 001, the combined mixture of the effluent shall be evaluated for chronic toxicity. The combined mixture is a more representative sample of the waste water being discharged into the receiving water. Therefore, the permit requires that the permittee, in coordination with COS Samoa Packing Company, Inc., to conduct a special study to simulate and evaluate chronic toxicity levels of the combined cannery effluent following initial mixing with the receiving water, under critical conditions. As part of the special study, the permittee, in coordination with COS Samoa Packing Company, Inc., shall conduct semi-annual chronic toxicity tests in accordance with EPA testing procedures described in the permit. The purposes of the study are to determine 1) the levels of chronic toxicity in the discharge, 2) the appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using range finding testing procedures, and 3) effluent triggers or limits. The study shall begin within one year of the effective date of the permit and continue for a three year period. Upon completion of the study, study results will be reviewed by EPA and ASEPA and used to develop appropriate monitoring requirements and triggers (i.e., chronic in-stream waste

Table 10 - List of endangered or threatened species that may occur near the discharge outfall from the StarKist Samoa, Inc. facility.

ESA Endangered or Threatened Species	Activity
Endangered humpback whale ( <i>Megaptera novaeangliae</i> )	Feeding/Swimming
Endangered hawksbill turtle ( <i>Eretmochelys imbricata</i> )	Feeding/Swimming
Threatened green sea turtle ( <i>Chelonia mydas</i> )	Feeding/Swimming

concentration) to assess chronic toxicity of the combined effluents. In addition, the permittee is required to prepare a brief (1-2 pages) Initial Investigation TRE Workplan no later than one year of the effective date of the permit, as specified in the permit. The workplan shall include steps the permittee intends to follow if toxicity is measured below the chronic in-stream waste concentration for the combined cannery effluent discharge. The workplan shall be submitted to EPA and ASEPA for review and approval.

## PART IX - OTHER CONSIDERATIONS UNDER FEDERAL LAW

### A. Impact to Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat. Pago Pago Harbor is considered an embayment that is generally used for recreational and subsistence fishing, boating and mooring activities, aesthetic enjoyment, support and propagation of marine life, industrial water supply. On January 17, 2007, EPA requested informal consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (collectively referred to as “the Services”) to identify any federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago Harbor or in the vicinity of the effluent discharge. As specified in Table 10, the U.S. Fish and Wildlife Service and National Marine Fisheries Service provided a list of endangered and threatened species under their jurisdiction that may be present in the vicinity of the effluent discharged to Pago Pago Harbor. No additional marine species are proposed or are candidates for listing at this time, and no critical habitat has been designated or proposed for any marine protected species around Tutuila, American Samoa.

The effluent discharged from the facility is characterized as industrial processing wastewater that contains primarily fish byproducts. Although effluent monitoring data have shown exceedances of effluent limitations during the previous five-year permitting period (see Table 1), EPA believes that the technology and water quality-based effluent limits in the draft permit will not affect the humpback whale (*Megaptera novaeangliae*), hawksbill turtle (*Eretmochelys imbricate*), or green sea turtle (*Chelonia mydas*). According to the National Marine Fisheries Service, humpback whales only occasionally

enter Pago Pago Harbor, and only during their annual migration into the region from June to December, with peak abundances in September and October. In addition, while hawksbill and green sea turtles are known to occur in the area, the National Marine Fisheries Service believes that "the outfall and diffuser location with a depth of approximately 176 feet may be too deep to provide optimal foraging or resting habitat for the turtles" (NOAA 2007).

EPA believes the effluent limits also are not likely to affect the availability or distribution of prey species or produce undesirable aquatic life within Pago Pago Harbor that may impact the humpback whale, hawksbill or green sea turtle. As previously described, technology-based effluent limits are based on ELGs and numerical and narrative water quality-based effluent proposed in the permit are based on ASWQS for the protection of aquatic life uses and human health. Therefore, EPA has determined that reissuance of the NPDES permit for the StarKist Samoa Inc. facility will not affect listed species, such as humpback whales or hawksbill and green sea turtles, or critical habitat.

EPA provided the Services with copies of the draft fact sheet and the draft permit during the public notice period. No comments were received from the Services during the public comment period regarding this determination.

#### B. Impact to Coastal Zones

The Coastal Zone Management Act ("CZMA") requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification. On July 5, 2007, the permittee requested a coastal zone consistency certification from the American Samoa Department of Commerce. On January 16, 2008, the American Samoa Department of Commerce issued a coastal zone consistency certification that certified that the permittee's renewal of a NPDES permit for the discharge of treated wastewater to Pago Pago Harbor complies with the "goals and policies of the American Samoa Coastal Zone Management Program and shall be conducted in a manner consistent with this program."

#### C. Impact to Essential Fish Habitat

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act ("MSA") set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat ("EFH"). The Pago Pago Harbor contains EFH that includes coral reef ecosystems and habitats for precious corals, crustaceans, and the production of eggs

and larvae of tropical fish species (NOAA 2007). Since effluent limitations in the draft permit are based on ELGs or water quality standards, EPA has determined that there will be no adverse impacts to the marine environment, including EFH and sensitive marine species and habitats from the issuance of the StarKist Samoa, Inc. NPDES permit. In addition, the draft permit establishes chronic toxicity monitoring using the purple sea urchin, *Strongylocentrotus purpuratus*, (a sensitive marine species) to assess effluent toxicity. On May 15, 2007, EPA requested a general concurrence from the National Marine Fisheries Service for EPA NPDES permitting activities in the Pacific Islands and is currently awaiting a response.

EPA provided the National Marine Fisheries Service with copies of the draft fact sheet and the draft permit during the public notice period. No comments were received from the National Marine Fisheries Service regarding this determination during the public comment period.

## **PART X - ADMINISTRATIVE INFORMATION**

### **A. Public Notice**

In accordance with 40 CFR 124.10, the EPA Director shall give public notice that a proposed permit has been prepared under 40 CFR 124.6(d) by mailing a copy of the notice to the permit applicant and other federal and state agencies, and through publication of a notice in a daily or weekly newspaper within the area affected by the facility. On January 9, 2008, EPA provided public notice of the proposed action to issue a renewal of the permittee's permit in the Samoa News. The public notice allowed 30 days for the public to comment on the draft permit. The public comment closed on February 7, 2008.

### **B. Public Comment Period**

In accordance with 40 CFR 124.11 and 12, during the public comment period, any interested person may submit written comments on the proposed permit and may request a public hearing, if no hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. In accordance with 40 CFR 124.13, all persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period.

EPA considered all oral and written comments received at the during the public comment period. After the close of the public comment period, EPA is required to respond to all significant comments at the time a final permit decision is reached or at the same time a final permit is actually issued. EPA's responses to such comments are included in the Response to Comment document.

### C. Public Hearing

In accordance with 40 CFR 124.12, the EPA Director shall hold a public hearing whenever she finds, on the basis of requests, a significant degree of public interest in the draft permit. The Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10.

A public hearing was not conducted for the draft permit.

### D. Territorial Certification

In accordance with 40 CFR 124.53, under section 401 of the CWA, EPA may not issue a permit until certification is granted or waived in accordance with that section by the State or Territory in which the discharge originates. Territorial certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law. On July 12, 2007, in conjunction with ASEPA's approval of a mixing zone for the proposed discharge, ASEPA certified that the permittee's discharge was found to be consistent with the protected uses of Pago Pago Harbor, as stated in ASWQS, and the CWA. Further, ASEPA determined that there is reasonable assurance that the discharge will not cause violations of ASWQS.

## PART XI - REFERENCES

ASEPA. 2007. Electronic memo from Peter Peshut, American Samoa Environmental Protection Agency, to Sara Greiner, U.S. Environmental Protection Agency on June 22, 2007.

EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. Prepared by EPA, Office of Water Enforcement and Permits, in March 1991. EPA/505/2-90-001.

EPA. 2002. National Recommended Water Quality Criteria. Office of Water, EPA. EPA/822/R-02/047.

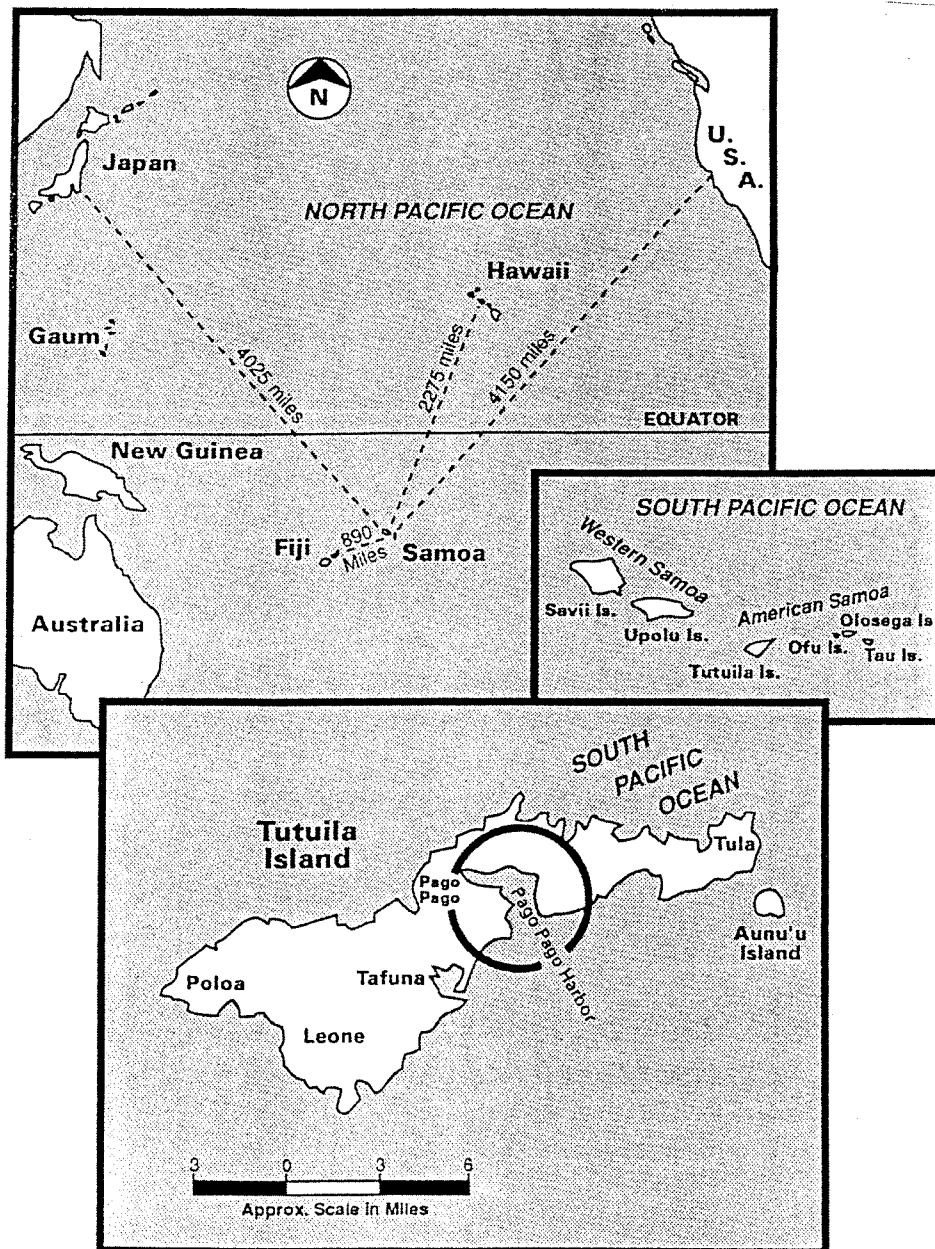
gdc. 2007. Request for Water Quality Certification and the Definition of Mixing Zone. Submitted to American Samoa Environmental Protection Agency by StarKist Samoa (NPDES Permit AS0000019) and COS Samoa Packing (NPDES Permit AS0000027) on June 28, 2007.

NOAA. 2007. Letter from National Oceanic Atmospheric Administration, National Marine Fisheries Service, to EPA Region IX, dated March 15, 2007.

## PART XII - ATTACHMENTS

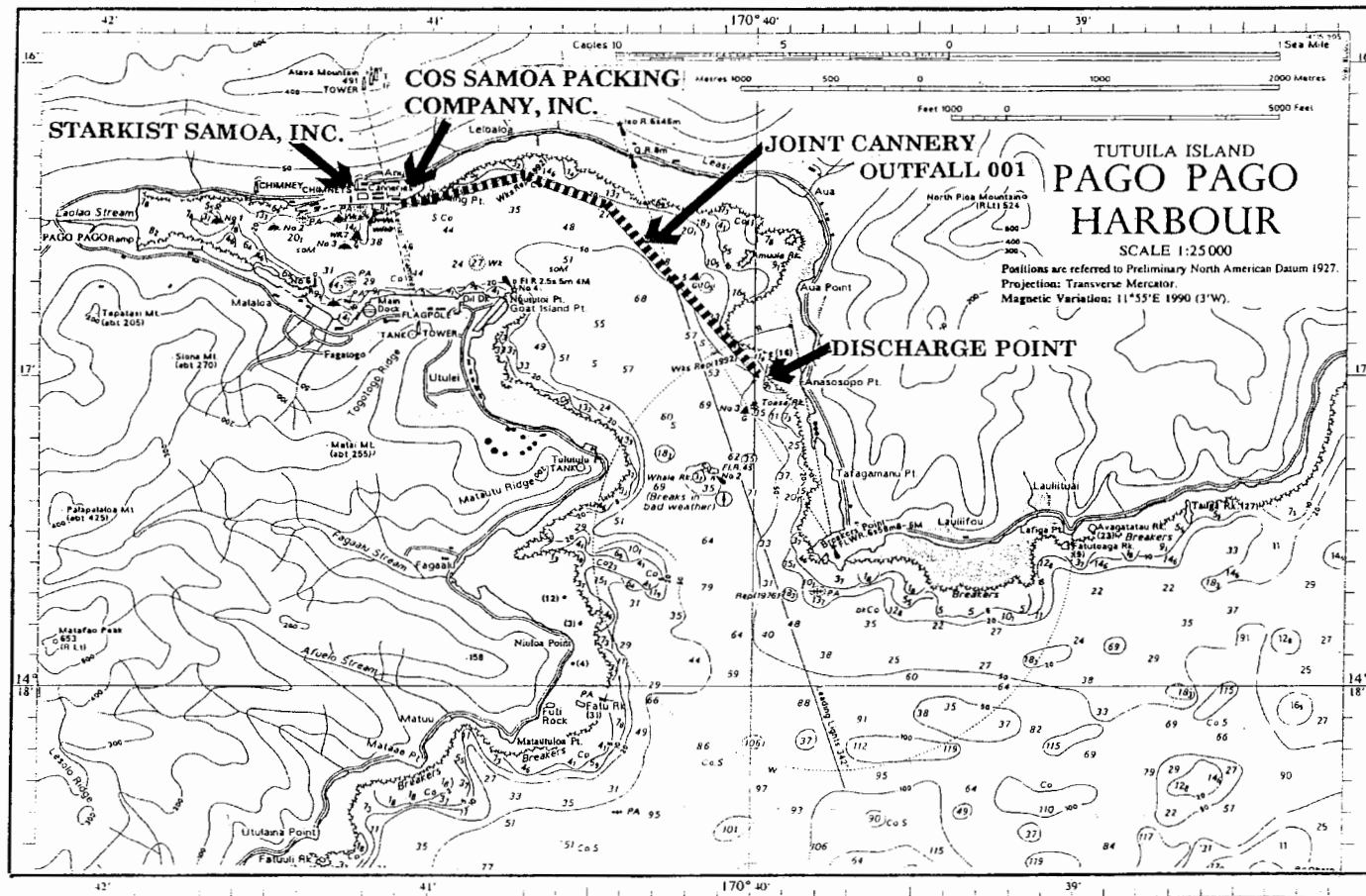
## ATTACHMENT A

### Location of American Samoa and the Island of Tutuila



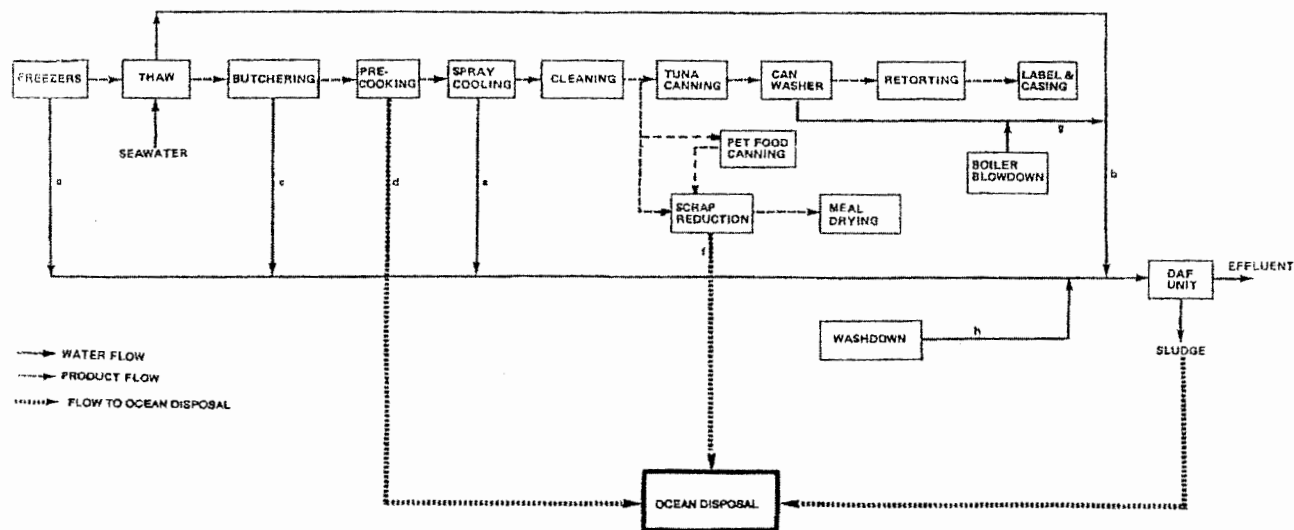
## ATTACHMENT B

### Location of StarKist Samoa, Inc. and COS Samoa Packing Company, Inc. and the Joint Cannery Outfall No. 001 in Pago Pago Harbor.



## ATTACHMENT C

### Wastewater flow diagram for the StarKist Samoa, Inc. facility.



WATER FLOW DIAGRAM  
STARKIST SAMOA, INC.  
(NPDES Permit Form 2C, Item 11A.)



## **ATTACHMENT D**

### **Calculations for Water Quality-based Effluent Limitations**

In accordance with EPA's Technical Support Document for Water Quality-based Toxics Control ("TSD"), EPA calculated water quality-based effluent limitations for the permit using the following statistical procedures. Using copper as an example, the following demonstrates how water quality based effluent limitations were established for the StarKist Samoa, Inc. NPDES permit.

**Step 1:** For each constituent requiring an effluent limit, identify the applicable water quality criteria. For each criterion, determine the effluent concentration or waste load allocation ("WLA") using the following steady state equation:

$$WLA = C + D(C - C_a)$$

Where:        C = Applicable water quality criterion  
                  D = Dilution Ratio  
                  C<sub>a</sub> = Ambient Background Concentration

For copper, the applicable water quality criteria for the protection of aquatic life in saltwater and other parameters include the following,

C<sub>acute</sub> = 4.8 ug/l  
C<sub>chronic</sub> = 3.1 ug/l  
D = 25:1  
C<sub>a</sub> = 0.296 ug/l.

Based on the equation above, the WLA for both acute and chronic are 117.4 and 73.2 ug/l, respectively.

**Step 2:** For each WLA based on aquatic life criterion, determine the long-term average discharge condition ("LTA") by multiplying the WLA by a WLA multiplier. The multiplier is a statistically-based factor that adjusts the WLA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation ("CV") of the data set and whether it is an acute or chronic criterion. Table 5-1 of EPA's TSD provides pre-calculated WLA multipliers based on the value of the CV and the probability basis (i.e., the 95th or 99th percentile level). As specified in the TSD, a CV of 0.6 is typical of the range of variability of effluents measured by EPA and represents a reasonable degree of relative variability. Therefore, EPA recommends a CV of 0.6 and the 99th percentile when data sets are limited.

$$\begin{aligned} LTA_{acute} &= WLA_{acute} \times WLA \text{ multiplier}_{acute} \\ LTA_{chronic} &= WLA_{chronic} \times WLA \text{ multiplier}_{chronic} \end{aligned}$$

For copper, the following information was used to develop the  $LTA_{acute}$  and  $LTA_{chronic}$  using Table 5-1 of the TSD.

$$\begin{aligned}WLA_{acute} &= 117.4 \text{ ug/l} \\WLA_{chronic} &= 73.2 \text{ ug/l} \\WLA \text{ multiplier}_{acute} &= 0.321 \\WLA \text{ multiplier}_{chronic} &= 0.527\end{aligned}$$

Thus,

$$\begin{aligned}LTA_{acute} &= 117.4 \times 0.321 = 37.69 \text{ ug/l} \\LTA_{chronic} &= 73.2 \times 0.527 = 38.576 \text{ ug/l}.\end{aligned}$$

**Step 3:** Select the most limiting (lowest) LTA. For copper, the most limiting LTA was the  $LTA_{acute}$ .

**Step 4.** Calculate the water quality based effluent limits by multiplying the LTA by an AML and MDL multiplier. Water quality based effluent limits are expressed as Average Monthly Limit ("AML") and Maximum Daily Limit ("MDL"). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedances frequencies of the criteria and the effluent limitation. The value of the multiplier varies depending on the probability, the CV, and the number of samples (AML only). Table 5-2 of the TSD provides pre-calculated AML and MDL multipliers.

$$\begin{aligned}AML &= LTA_{acute} \times \text{AML multiplier} \\MDL &= LTA_{acute} \times \text{MDL multiplier}\end{aligned}$$

For limited data, the TSD recommends the 95th percentile (n=4) and 99th occurrence probability for the AML and MDL multipliers, respectively. For copper, the following information was used to develop the AML and MDL for aquatic life using Table 5-2 of the TSD.

$$\begin{aligned}AML &= 37.69 \times 1.55 = 58.42 \text{ ug/l} \\MDL &= 37.69 \times 3.11 = 117.22 \text{ ug/l}\end{aligned}$$

Step 6: For mass-based limitations for copper, calculate the mass limit based on the AML and MDL using the maximum daily maximum flow rate of 2.57 MGD, maximum monthly average flow rate of 1.56 MGD, and a standard conversion factor.

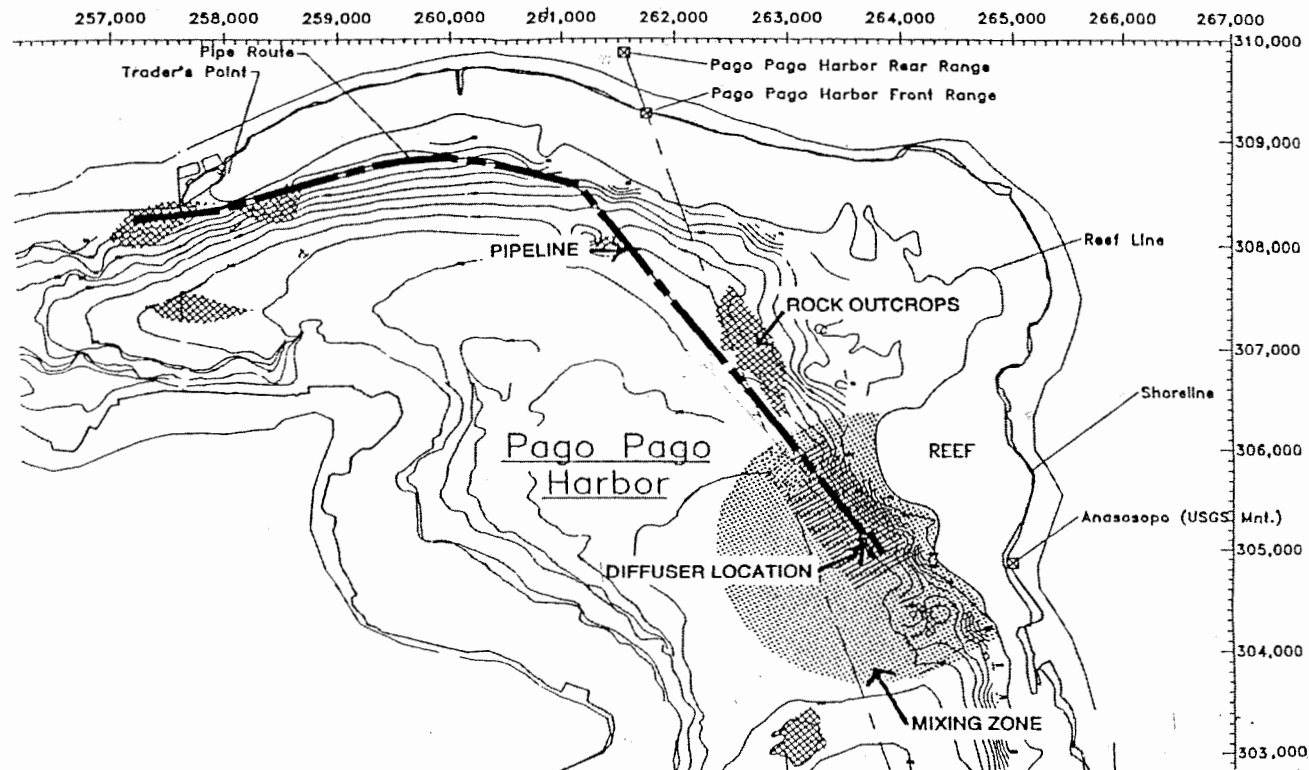
$$\begin{aligned}AML_{mass} &= 58.42 \text{ ug/l} \times 2.9 \text{ MGD} \times 0.00834 \text{ lbs/MG/ug/L} = 1.41 \text{ lbs/day} \\MDL_{mass} &= 117.22 \text{ ug/l} \times 2.9 \text{ MGD} \times 0.00834 \text{ lbs/MG/ug/L} = 2.84 \text{ lbs/day}\end{aligned}$$

Thus,

$$\begin{aligned}AML_{mass} &= 1.41 \text{ lbs/day} \\MDL_{mass} &= 2.84 \text{ lbs/day}.\end{aligned}$$

## ATTACHMENT E

**Location of Discharge Point and mixing zone area for total phosphorus and total nitrogen.  
The boundary of the zone of mixing is approximately 1,300 feet from the end  
of the diffuser or the 30 foot contour, whichever is closer.**



## JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

American Samoa Environmental Protection Agency  
P.O. Box PPA  
Pago Pago, American Samoa 96799

On Application for a National  
Pollutant Discharge Elimination  
System (NPDES) Permit to  
Discharge Pollutants to Waters  
of the United States

Public Notice No.: **AS-08-W-06**  
Publication Date of Notice: **January 2, 2008**  
Public Comment Period Closes: **January 31, 2008**

U.S. Environmental Protection Agency, Region IX (EPA) and American Samoa Environmental Protection Agency (ASEPA) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA), and regulations. EPA is today proposing to reissue NPDES permits to the following dischargers:

StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

and

COS Samoa Packing Company, Inc.  
P.O. Box 957  
Pago Pago, Tutuila  
American Samoa 96799

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. each own and operate a tuna processing and canning facility located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa. Each facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. The StarKist Samoa, Inc. facility has a daily production of 564 tons of tuna processed per day, with a maximum daily production of 614 tons per day. The facility anticipates a maximum average daily production of 600 tons of tuna processed per day during the next permit term. The COS Samoa Packing Company, Inc. facility has an average daily production of 359 tons of tuna processed per day, with a daily maximum of 445 tons per day. During the permit term, the facility anticipates a maximum average daily production of 450 tons of tuna processed per day. Each facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. Each facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. discharge effluent collected from each facility's wastewater collection system into Pago Pago Harbor via a single outfall shared by the two facilities (referred to as Discharge Outfall No. 001). Discharge Point No. 001, also known as the Joint Cannery Outfall or "JCO", is located approximately 1.5 miles seaward

from the facilities and is shared by both facilities. The discharge point terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor.

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. Pago Pago Harbor is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and whole and limited recreational contact. Specific intended uses include the following: recreational and commercial fishing, shipping, boating and berthing, industrial water supply, and support and propagation of marine life.

EPA has made a preliminary determination that the draft NPDES permits will have no effect on any federally-listed threatened or endangered species.

The Administrative Record, including the permit applications, fact sheets, draft permits, public comments, and other relevant documents, is available for public review Monday through Friday from 9:00 a.m. to 4:00 pm. at the EPA address listed below or may be obtained by contacting Mr. Carl Goldstein of EPA by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov). The draft permits and fact sheets may also be obtained by visiting EPA website: <http://www.epa.gov/region09/water/npdes/pubnotices.html>. Persons wishing to comment upon the draft permits or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or request in writing within 30 days from the date of this notice, either in person or by mail to:

Regional Administrator  
EPA Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

Upon issuance of a final permit decision and response to comments, EPA will notify by mail the applicants and persons who submitted written comments or requested notice of the final permit decision. If no comments are submitted on the draft permits, the final permits will become effective three (3) days from the date of mailing. If comments are submitted on the draft permits, the final permits will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board to review any conditions of the final permits under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to EPA at the address listed above. Persons filing a request for review must have filed comments on the draft permit(s) or participated in a public hearing. Please bring the foregoing to the attention of all persons you know that would be interested in this matter.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Mr. Brett B. Butler  
StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

JAN 2 2008

RE: Draft Fact Sheet and Permit for StarKist Samoa, Inc.,  
NPDES Permit No. AS0000019

Dear Mr. Butler:

Please find enclosed a copy of a fact sheet and draft permit for the proposed action to reissue the National Pollutant Discharge Elimination System ("NPDES") permit for:

StarKist Samoa, Inc.,  
Atu'u, Maoputasi  
American Samoa 96799.

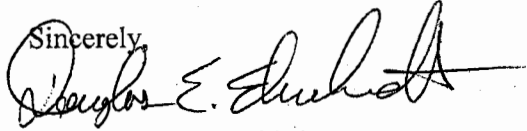
The public comment period is from January 2 to January 31, 2008. Comments on the proposed action, or a request for a public hearing pursuant to 40 CFR 124.12, may be submitted to the addresses listed within 30 days following the initial date of the public notice. All persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period on January 31, 2008. In accordance with 40 CFR 124.12, the EPA Director shall hold a public hearing whenever she finds, on the basis of requests, a significant degree of public interest in a draft permit. The EPA Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10. Comments on the draft permit may be submitted either in person or mailed to:

Regional Administrator  
EPA - Region IX  
Pacific Islands Office  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

All comments received by the end of the public comment period shall be considered in making the final permit decision.

If you have any questions regarding the draft permit or permitting process, please contact Mr. Carl Goldstein by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,  


Doug Eberhardt, Chief  
Clean Water Act Standards and Permits Office

Enclosures (2)

cc: Mr. Peter Peshut, ASEPA (via E-mail)  
Mr. Steve Costa, gdc (via E-mail)

Sara Greiner/R9/USEPA/US  
01/02/2008 11:24 AM

To "Steven Costa" <glatzeldacosta@suddenlink.net>, Peter  
Peshut <pjp617@uow.edu.au>  
cc Carl Goldstein/R9/USEPA/US@EPA  
bcc Sara Greiner/R9/USEPA/US  
Subject Notice of Public Comment Period for StarKist Samoa, Inc.

EPA announces that it has public noticed today, January 2, 2008, in the Samoa News, a copy of the fact sheet and draft NPDES permit for the StarKist Samoa, Inc. facility. A hard copy of the cover letter, fact sheet and draft permit will be sent to this discharger. The public comment period will end on January 31, 2008. Attached is an electronic copy of the cover letter.



StarKist Cvr Ltr Draft Permit.pdf

Electronic copies of the fact sheet and draft permit can be obtained from the following EPA Region 9 websites:

<http://www.epa.gov/region09/water/npdes/pubnotices.html>  
<http://www.epa.gov/region09/water/npdes/permits.html#amsomoa>

Linked from the Pub Notices page as well: <http://www.epa.gov/region09/publicnotices.html>

---

Sara N. Greiner  
U.S. Environmental Protection Agency  
Clean Water Act Standards and Permits Office  
75 Hawthorne Street, WTR-5  
San Francisco, California 94105  
Telephone: 415-972-3042  
Fax: 415-947-3545

---



## JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency  
Region 9 (WTR-5)  
75 Hawthorn Street  
San Francisco, CA 94105  
(415) 744-1914

Environmental Quality Commission  
American Samoa Government  
Pago Pago, American Samoa 96799  
(684) 633-2304

### Public Notice No. -----

The Environmental Protection Agency (EPA), Region 9, San Francisco, California and the American Samoa Environmental Quality Commission, Pago Pago, American Samoa are jointly issuing the following notice of proposed action under the Clean Water Act (CWA).

The Environmental Protection Agency, San Francisco, California has received complete applications for National Pollution Discharge Elimination Systems (NPDES) permits and has prepared tentative determinations regarding the permits.

On the basis of a review of the requirements of the CWA, as amended, the implementing regulations, the Regional Administrator, EPA Region 9, proposes to reissue NPDES permits to the following applicants, subject to certain effluent limitations and other conditions:

StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, American Samoa 96799  
NPDES Permit No. AS0000019

and

COS Samoa Packing, Inc.  
P.O. Box 957  
Pago Pago, American Samoa 96799  
NPDES Permit No. AS0000027

StarKist Samoa and COS Samoa Packing Company operate tuna canneries on Tutuila Island, American Samoa. The canneries receive whole tuna which is processed into canned tuna and dried fish meal. Waste streams from these canneries consist mainly of fish waste, fresh water, and sea water which are treated by the Dissolved Air Floatation (DAF) process. The process waste streams from both canneries are discharged into Pago Pago Harbor.

Under proposed permit conditions, both canneries are required to meet final effluent limits for temperature, suspended solids, oil and grease, pH, nitrogen, phosphorus, ammonia, zinc, and copper. The proposed permits require that both canneries shall meet stringent final effluent limits that are based on American Samoa Water Quality Standards for Pago Pago Harbor. EPA has made a preliminary determination that the proposed permit would have no effect on any federally-listed threatened or endangered species.

The Administrative Records for the draft permits, which include the applications, draft permits, fact sheets, and all data sent by the applicant for the permits, are available for public inspection. The administrative records may be viewed Monday through Friday from 9:00 am until 4:00 pm at

the EPA address below. A copy of these documents may be obtained by calling (415) 744-1914 or writing to the address listed below.

Persons wishing to comment upon the draft permit or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or requests in writing within 30 days from the date of this notice, either in person or by mail to:

U.S. Environmental Protection Agency, Region 9  
Clean Water Act Standards and Permits Office (WTR-5)  
Attn: Sara Roser  
75 Hawthorne Street  
San Francisco, California 94105  
Telephone: (415) 744-1914

Copies of the applications, draft permits, and fact sheets are also available for public review Monday through Friday from 8:00 am to 4:00 pm at the following office:

Environmental Quality Commission  
American Samoa Government  
Pago Pago, American Samoa 96799

Contact Person: Togipa Tausaga, Director

The Environmental Quality Commission is reviewing the draft permits and may:

1. certify the draft permits without comments; or
2. certify the draft permits and impose conditions more stringent than those contained therein; or
3. deny the certification of the draft permits.

All comments submitted within 30 days from the date of this notice will be considered in the formulation of the final permit. If the response to this notice indicates a significant degree of public desire for a public hearing, the Regional Administrator shall hold one in accordance with 40 CFR 124.12. A public notice of such hearing will be issued at least 30 days prior to the hearing. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

If the draft permits become final, and there are no appeals, discharge from and operation of the identified facilities may proceed or continue, subject to the conditions of the permits and other applicable permits and legal requirements.

EPA will prepare and issue a final permit after reviewing all comments received during the public comment period. If no comments are submitted on the draft permit, the final permit will become effective three (3) days from the date of mailing. If comments are submitted on the draft permit, the final permit will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board (EAB) to review any conditions of the final

permit under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to the EPA address listed above.

As stated in newly-revised 40 CFR 124.19(a), within 33 days after EPA issues the final permit, any person who filed comments on the draft permit or participated on the public hearing may petition the EAB to review any condition of the permit decision. Any person who failed to file comments or failed to participate in a public hearing on the draft permit may petition for administrative review only with regard to changes made from the draft permit to the final permit. The petition shall include a statement of the reasons supporting the review, including a demonstration that any issues being raised were raised during the public comment period (including any public hearing) to the extent required by these regulations and, when appropriate, a showing that the condition in question is based on: (1) a finding of fact or conclusion of law which is clearly erroneous; or (2) an exercise of discretion or an important policy consideration which the EAB should, in its discretion, review. Under 40 CFR 124.16 and 124.60, a petition for review under 40 CFR 124.19 stays the force and effect of the contested conditions of the final permit until final agency action under 40 CFR 124.19(f).

Please bring the foregoing notice to the attention of all persons you know would be interested in this matter.

October 24, 2000

Phil Thirkel, General Manager  
StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, American Samoa 96799

Re: StarKist Samoa, Inc.  
NPDES Permit No. AS0000019

Dear Mr. Thirkel:

Attached is the draft NPDES permit, a fact sheet, and a joint notice of proposed action for StarKist Samoa, Inc. The joint notice of proposed action will be published in a local newspaper shortly. The target date for publication is October 30, 2000. The formal public comment period will begin on the day the notice is published and will end 30 days from the date of the notice. Please review the enclosed documents and provide comments to EPA by the close of the comment period.

As stated in the joint notice of proposed action, please submit comments to:

U.S. Environmental Protection Agency, Region IX  
CWA Office of Permits and Standards, WTR-5  
Attn: Sara Roser  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Please contact me at (415) 744-1914 if you have any questions regarding the permit.

Sincerely,

Sara Roser  
CWA Standards and Permits Office (WTR-5)

Enclosures

cc: Togipa Tausaga, Director ASEPA  
Margaret Dupree, National Marine Fisheries Service  
Paul Henson, US Fish and Wildlife Service  
Nancy Daschbach, National Marine Sanctuaries  
Mike Dworsky, American Samoa Power Authority  
Lelei Peau, American Samoa Coastal Management Program  
Department of Marine Resources, American Samoa Government  
Department of Public Safety, American Samoa Government

October 24, 2000

Herman Gebauer, General Manager  
COS Samoa Packing, Inc.  
P.O. Box 957  
Pago Pago, American Samoa 96799

Re: COS Samoa Packing, Inc.  
NPDES Permit No. AS0000027

Dear Mr. Gebauer:

Enclosed is the draft NPDES permit, a fact sheet, and a joint notice of proposed action for the COS Samoa Packing, Inc. The joint notice of proposed action will be published in a local newspaper shortly. The target date for publication is October 30, 2000. The formal public comment period will begin on the day the notice is published and will end 30 days from the date of the notice. Please review the enclosed documents and provide comments to EPA by the close of the comment period.

As stated in the joint notice of proposed action, please submit comments to:

U.S. Environmental Protection Agency, Region IX  
CWA Office of Permits and Standards, WTR-5  
Attn: Sara Roser  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Please contact me at (415) 744-1914 if you have any questions regarding the proposed permit.

Sincerely,

Sara Roser  
CWA Standards and Permits Office (WTR-5)

Enclosures

cc: Togipa Tausaga, ASEPA  
Margaret Dupree, National Marine Fisheries Service  
Paul Henson, US Fish and Wildlife Service  
Nancy Daschbach, National Marine Sanctuaries  
Jim Cox, COS Samoa Packing Company  
Mike Dworsky, American Samoa Power Authority  
Lelei Peau, American Samoa Coastal Management Program  
Department of Marine Resources, American Samoa Government  
Department of Public Safety, American Samoa Government

# Honolulu man charged with fatal stabbing of local teenager

by Fili Sagapolutele

Samoa News Correspondent

Authorities in Honolulu have charged a man in connection with the fatal stabbing of American Samoa teenager Fusitogamaga Savea, whose body will arrive in the territory Sunday night for burial.

Fusi, 18, was stabbed during the early morning of Dec. 26 at the parking lot of a store to the entrance of a public housing complex in Kalihi. He later died at a Queen Medical Center and an autopsy by the Honolulu city Medical Examiner's Office revealed that he was stabbed in the heart.

Honolulu Police Department spokesman Frank Fujii told Samoa News yesterday that R.J. Ham, who was taken into custody last week Wednesday, was charged over the weekend in connection with the fatal stabbing.

Fujii said Ham is facing murder in the second degree, and if convicted, he could face up to life in prison. Fujii said bail is set at \$1 million and Ham remains in custody unable

to post bail.

The Honolulu Star Bulletin newspaper says the fatal stabbing allegedly stemmed from a handshake between Fusi and Ham.

According to the Honolulu newspaper, Ham was wanted for arrest on probation violations at the time of the homicide. He was convicted in May 2006 of assaulting two men and was sentenced to five years probation with several conditions.

Fusi, a 2007 graduate of Samoana High School, moved to Honolulu not long after graduation for a better future.

He is the son of Liuaifi and Lalaua Savea of Fagasa, but he was raised by his grandparents, Josefa and Palo Savea.

His mother, Lalaua, said Fusi was a quiet and loving person. She said their home was always filled with people because Fusi liked to socialize and make friends with anyone.

Lalaua said Fusi's body will arrive Sunday night and will be taken straight to his home in Fagasa. He will be laid to rest the following day.

## \* Clinton, McCain...

from page 2

week, was running third in New Hampshire.

McCain was winning 37 percent of the Republican vote, Romney had 32 and Huckabee 11. Former New York Mayor Rudy Giuliani had 9 percent, Texas Rep. Ron Paul 8.

Clinton's triumph was unexpected — and unpredicted.

Obama drew huge crowds as he swept into the state after winning Iowa. Confident of victory, he stuck to his pledge to deliver "change we can believe in," while the former first lady was forced to retell her appeal to voters on the run. She lessened her emphasis on experience, and sought instead

to raise questions about Obama's ability to bring about the change he promised.

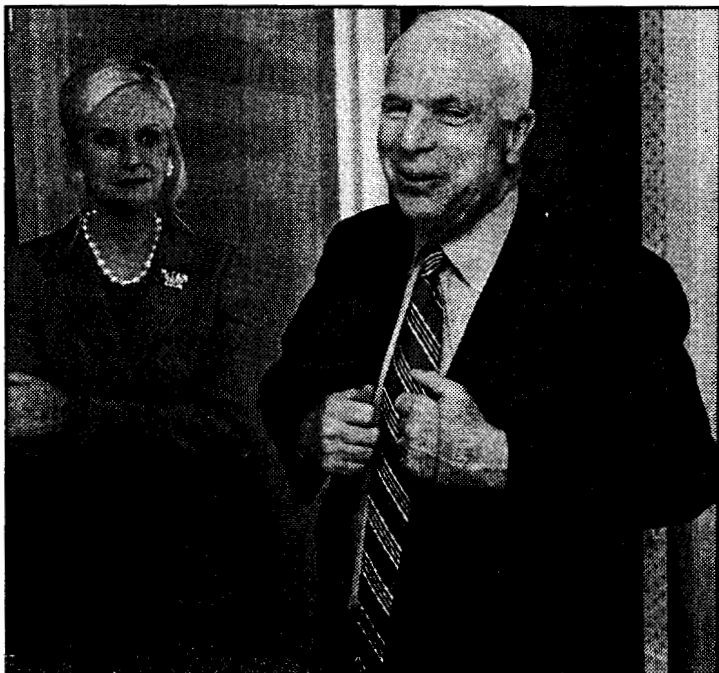
The grind took a toll on both of them.

Obama suffered from a sore throat, while Clinton's voice quavered at one point when asked how she coped with the rigors of the campaign. That unexpected moment of emotion became the talk of the final 24 hours of the campaign.

Clinton's performance came as a surprise even to her own inner circle.

Officials said her aides were considering whether to

(Continued on page 4)



Republican presidential hopeful Sen. John McCain, R-Ariz., and his wife Cindy react to election results in his hotel room on election night in Nashua, N.H., Tuesday, Jan. 8, 2008. (AP Photo/Charles Dharapak)

## JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

American Samoa Environmental Protection Agency  
P.O. Box PPA  
Pago Pago, American Samoa 96799

On Application for a National  
Pollutant Discharge Elimination  
System (NPDES) Permit to  
Discharge Pollutants to Waters  
of the United States

Public Notice No.: AS-08-W-06  
Publication Date of Notice: January 9, 2008  
Public Comment Period Closes: February 7, 2008

U.S. Environmental Protection Agency, Region IX (EPA) and American Samoa Environmental Protection Agency (ASEPA) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA), and regulations. EPA is today proposing to reissue NPDES permits to the following dischargers:

StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

and

COS Samoa Packing Company, Inc.  
P.O. Box 957  
Pago Pago, Tutuila  
American Samoa 96799

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. each own and operate a tuna processing and canning facility located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa. Each facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. The StarKist Samoa, Inc. facility has a daily production of 564 tons of tuna processed per day, with a maximum daily production of 614 tons per day. The facility anticipates a maximum average daily production of 600 tons of tuna processed per day during the next permit term. The COS Samoa Packing Company, Inc. facility has an average daily production of 359 tons of tuna processed per day, with a daily maximum of 445 tons per day. During the permit term, the facility anticipates a maximum average daily production of 450 tons of tuna processed per day. Each facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. Each facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. discharge effluent collected from each facility's wastewater collection system into Pago Pago Harbor via a single outfall shared by the two facilities (referred to as Discharge Outfall No. 001). Discharge Point No. 001, also known as the Joint Cannery Outfall or "JCO", is located approximately 1.5 miles seaward from the facilities and is shared by both facilities. The discharge point terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor.

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. Pago Pago Harbor is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and whole and limited recreational contact. Specific intended uses include the following: recreational and commercial fishing, shipping, boating and berthing, industrial water supply, and support and propagation of marine life.

EPA has made a preliminary determination that the draft NPDES permits will have no effect on any federally-listed threatened or endangered species.

The Administrative Record, including the permit applications, fact sheets, draft permits, public comments, and other relevant documents, is available for public review Monday through Friday from 9:00 a.m. to 4:00 p.m. at the EPA address listed below or may be obtained by contacting Mr. Carl Goldstein of EPA by telephone at (415) 972-3767 or electronic mail at goldstein.carl@epa.gov. The draft permits and fact sheets may also be obtained by visiting EPA website: <http://www.epa.gov/region09/water/npdes/pubnotices.html>. Persons wishing to comment upon the draft permits or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or request in writing within 30 days from the date of this notice, either in person or by mail to:

Regional Administrator  
EPA Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

Upon issuance of a final permit decision and response to comments, EPA will notify by mail the applicants and persons who submitted written comments or request a notice of the final permit decision. If no comments are submitted on the draft permits, the final permits will become effective three (3) days from the date of mailing. If comments are submitted on the draft permits, the final permits will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board to review any conditions of the final permits under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to EPA at the address listed above. Persons filing a request for review must have filed comments on the draft permit(s) or participated in a public hearing. Please bring the foregoing to the attention of all persons you know that would be interested in this matter.

## JOINT NOTICE OF PROPOSED ACTION

by the

U.S. Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105

American Samoa Environmental Protection Agency  
P.O. Box PPA  
Pago Pago, American Samoa 96799

On Application for a National  
Pollutant Discharge Elimination  
System (NPDES) Permit to  
Discharge Pollutants to Waters  
of the United States

Public Notice No.: **AS-08-W-06**  
Publication Date of Notice: **January 9, 2008**  
Public Comment Period Closes: **February 7, 2008**

U.S. Environmental Protection Agency, Region IX (EPA) and American Samoa Environmental Protection Agency (ASEPA) are jointly issuing the following notice of proposed action under the Clean Water Act (CWA), and regulations. EPA is today proposing to reissue NPDES permits to the following dischargers:

StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

and

COS Samoa Packing Company, Inc.  
P.O. Box 957  
Pago Pago, Tutuila  
American Samoa 96799

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. each own and operate a tuna processing and canning facility located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa. Each facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. The StarKist Samoa, Inc. facility has a daily production of 564 tons of tuna processed per day, with a maximum daily production of 614 tons per day. The facility anticipates a maximum average daily production of 600 tons of tuna processed per day during the next permit term. The COS Samoa Packing Company, Inc. facility has an average daily production of 359 tons of tuna processed per day, with a daily maximum of 445 tons per day. During the permit term, the facility anticipates a maximum average daily production of 450 tons of tuna processed per day. Each facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. Each facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. discharge effluent collected from each facility's wastewater collection system into Pago Pago Harbor via a single outfall shared by the two facilities (referred to as Discharge Outfall No. 001). Discharge Point No. 001, also known as the Joint Cannery Outfall or "JCO", is located approximately 1.5 miles seaward from the facilities and is shared by both facilities. The discharge point terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor.

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. Pago Pago Harbor is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and whole and limited recreational contact. Specific intended uses include the following: recreational and commercial fishing, shipping, boating and berthing, industrial water supply, and support and propagation of marine life.

EPA has made a preliminary determination that the draft NPDES permits will have no effect on any federally-listed threatened or endangered species.

The Administrative Record, including the permit applications, fact sheets, draft permits, public comments, and other relevant documents, is available for public review Monday through Friday from



feet in the Outer Harbor of Pago Pago Harbor.

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. Pago Pago Harbor is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and whole and limited recreational contact. Specific intended uses include the following: recreational and commercial fishing, shipping, boating and berthing, industrial water supply, and support and propagation of marine life.

EPA has made a preliminary determination that the draft NPDES permits will have no effect on any federally-listed threatened or endangered species.

The Administrative Record, including the permit applications, fact sheets, draft permits, public comments, and other relevant documents, is available for public review Monday through Friday from 9:00 a.m. to 4:00 p.m. at the EPA address listed below or may be obtained by contacting Mr. Carl Goldstein of EPA by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov). The draft permits and fact sheets may also be obtained by visiting EPA website: <http://www.epa.gov/region09/water/npdes/pubnotices.html>. Persons wishing to comment upon the draft permits or request a public hearing pursuant to 40 CFR 124.12 should submit their comments or request in writing within 30 days from the date of this notice, either in person or by mail to:

Regional Administrator  
EPA Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105.

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

Upon issuance of a final permit decision and response to comments, EPA will notify by mail the applicants and persons who submitted written comments or requested notice of the final permit decision. If no comments are submitted on the draft permits, the final permits will become effective three (3) days from the date of mailing. If comments are submitted on the draft permits, the final permits will become effective 33 days from the date of mailing, unless a petition is filed with the Environmental Appeals Board to review any conditions of the final permits under 40 CFR 124.19(a), as revised at 65 Fed. Reg. 30886, 30911 (May 15, 2000). A copy of such petition should be sent to EPA at the address listed above. Persons filing a request for review must have filed comments on the draft permit(s) or participated in a public hearing. Please bring the foregoing to the attention of all persons you know that would be interested in this matter.





**NATIONAL MARINE FISHERIES SERVICE**

Pacific Islands Region  
1601 Kapiolani Blvd., Suite 110  
Honolulu, Hawaii 96814-4700  
(808) 944-2200 • Fax (808) 973-2941

**MAR 15 2007**

Ms. Sara N. Greiner  
CWA Standards and Permits Office  
United States Environmental Protection Agency  
Region IX  
75 Hawthorne Street  
San Francisco, CA 94105-3901

Dear Ms. Greiner:

This letter responds to your January 17, 2007 letter received by our office on January 23, 2007, regarding the United States Environmental Protection Agency's (EPA) re-issuance of two National Pollutant Discharge Elimination System (NPDES) permits for authorization to discharge pollutants into Pago Pago Harbor of American Samoa. Your letter requested information on listed species and their critical habitats as well as proposed and candidate species and critical habitat for listing that may occur within the potential area of discharge. The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) Pacific Islands Regional Office Protected Resources Division provides ESA-listed marine protected species information under our statutory authorities under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §1531 *et seq.*).

Your letter stated that Starkist Samoa, Inc. and COS Samoa Packing Company individually own and operate tuna cannery processing facilities located on the island of Tutuila in Pago Pago, American Samoa. The facilities discharge treated fish process wastewater through a shared single outfall and diffuser located at a depth of approximately 176 feet (ft) in the Outer Harbor area of Pago Pago Harbor. The combined daily maximum flow rate from the outfall is 3.82-million gallons daily. On February 8, 2007, my staff requested maps of Tutuila Island, Pago Pago Harbor, the joint cannery outfall and diffuser location, and the outfall and mixing zone location. On February 16, 2007, you responded to our request and four maps were received via e-mail.

Based on the maps that you provided, ESA-listed species under our jurisdiction that may occur in waters or shorelines around the project area include the endangered humpback whale (*Megaptera novaeangliae*), the endangered hawksbill turtle (*Eretmochelys imbricata*), and the threatened green turtle (*Chelonia mydas*). Humpback whales only occasionally enter Pago Pago Harbor, and only during their annual migration into the region from June to December, with peak abundances in September and October. Though hawksbill and green turtles may also occur in the area, the



outfall and diffuser location with a depth of approximately 176 ft may be too deep to provide optimal foraging or resting habitat for the turtles.

No additional marine species are proposed or are candidates for listing at this time, and no critical habitat has been designated or proposed for any marine protected species around Tutuila, American Samoa. There are, however, two fish species that are listed as a "Species of Concern". Our agency defines Species of Concern as those species whereby NMFS has some concerns regarding status and threats, but for which insufficient information is available to indicate a need to list the species under the ESA. These two species, the humphead wrasse (*Cheilinus undulatus*) and the bumphead parrotfish (*Bolbometopon muricatum*), are both known to occur in the waters of American Samoa. A complete list of American Samoa's marine protected species under NMFS's jurisdiction is also enclosed for your review.

Thank you for working with NMFS to protect our nation's living marine resources. Should you have any other questions regarding this project or the consultation process, please contact Krista Graham on my staff at (808) 944-2238, or at the e-mail address [Krista.Graham@noaa.gov](mailto:Krista.Graham@noaa.gov). Please refer to consultation #: I-PI-06-579-CY.

Sincerely,

A handwritten signature in black ink, appearing to read "Chris E. Yates", with a stylized flourish at the end.

Chris E. Yates  
Assistant Regional Administrator  
For Protected Resources

## AMERICAN SAMOA MARINE PROTECTED SPECIES

National Marine Fisheries Service, Pacific Islands Regional Office

### MARINE MAMMALS

All marine mammals are protected under the Marine Mammal Protection Act. Those in *ITALICIZED CAPITALS* are also listed as endangered under the Endangered Species Act.

<u>Common Name</u>	<u>Scientific Name</u>
<i>HUMBACK WHALE</i>	<i>Megaptera novaeangliae</i>
<i>SPERM WHALE</i>	<i>Physeter macrocephalus</i>
<i>BLUE WHALE</i>	<i>Balaenoptera musculus</i>
<i>FIN WHALE</i>	<i>Balaenoptera physalus</i>
<i>SEI WHALE</i>	<i>Balaenoptera borealis</i>
Minke Whale	<i>Balaenoptera acutorostrata</i>
Common Dolphin	<i>Delphinus delphis</i>
Rough-Toothed Dolphin	<i>Steno bredanensis</i>
Risso's Dolphin	<i>Grampus griseus</i>
Bottlenose Dolphin	<i>Tursiops truncatus</i>
Pantropical Spotted Dolphin	<i>Stenella attenuata</i>
Spinner Dolphin	<i>Stenella longirostris</i>
Striped Dolphin	<i>Stenella coeruleoalba</i>
Melon-Headed Whale	<i>Peponocephala electra</i>
Pygmy Killer Whale	<i>Feresa attenuata</i>
False Killer Whale	<i>Pseudorca crassidens</i>
Killer Whale	<i>Orcinus orca</i>
Short-Finned Pilot Whale	<i>Globicephala macrorhynchus</i>
Blainville's Beaked Whale	<i>Mesoplodon densirostris</i>
Cuvier's Beaked Whale	<i>Ziphius cavirostris</i>
Pygmy Sperm Whale	<i>Kogia breviceps</i>
Dwarf Sperm Whale	<i>Kogia sima</i>
Bryde's Whale	<i>Balaenoptera edeni</i>
Fraser's Dolphin	<i>Lagenodelphis hosei</i>

### SEA TURTLES

All sea turtles are protected under the Endangered Species Act. Those in *ITALICIZED CAPITALS* are listed as endangered, while those in normal lettering are listed as threatened.

<u>Common Name</u>	<u>Scientific Name</u>
<i>LEATHERBACK TURTLE</i>	<i>Dermochelys coriacea</i>
<i>HAWKSBILL TURTLE</i>	<i>Eretmochelys imbricata</i>
GREEN TURTLE	<i>Chelonia mydas</i>
OLIVE RIDLEY TURTLE	<i>Lepidochelys olivacea</i>
LOGGERHEAD TURTLE	<i>Caretta caretta</i>

*Last updated March 2007*

**Starkist Effluent Priority Pollutants (ug/l)**

No.*	Constituent	September 2004	2005 Permit Application	August 2005	March 2006
1	Antimony	44.5	44.5	NA	NA
2	Arsenic	17.5	17.5	NA	NA
3	Beryllium	ND	ND-BA <sup>1</sup>	NA	NA
4	Cadmium	8.6	8.6	NA	NA
5	Chromium	ND	ND-BA	NA	NA
6	Copper	ND	346	NA	3.12; 4.830
7	Lead	ND	ND-BA	NA	NA
8	Mercury	0.27	0.27	0.1173; 0.1770	0.126; 0.298
9	Nickel	ND	ND-BA	NA	NA
10	Selenium	5.6	5.6	NA	NA
11	Silver	ND	ND-BA	NA	NA
12	Thallium	ND	ND-BA	NA	NA
13	Zinc	260	2,650	NA	237; 340

<sup>1</sup>ND-BA means the permittee in the application marked "Believed Absent" and noted non detect.

$$\frac{27 \text{ ug}}{\text{L}} \times \frac{100 \text{ ng}}{1000 \text{ ug}} = \frac{27}{1000} \text{ ng/L}$$

270 ng/L

~~0.0027 ng/L~~



# United States Department of the Interior

## FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122, Box 50088  
Honolulu, Hawaii 96850



In Reply Refer To:  
2007-SL-0095

FEB 22 2007

Ms. Sara Greiner  
CWA Standards and Permits Office  
United States Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, California 94105-3901

Subject: Proposed National Pollutant Discharge Elimination System (NPDES) Permit for  
StarKist Samoa, Inc. (Permit No. AS0000019) and COS Samoa Packing  
Company (Permit No. AS0000027)

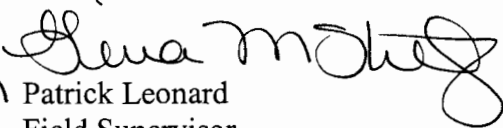
Dear Ms. Greiner:

Thank you for your letter of January 17, 2007 received in our office on January 23, 2007, requesting information on proposed or listed species or critical habitat that may occur in or near the proposed work area on Samoa. The request is to establish informal consultation on the re-issuance of two NPDES permits to discharge pollutants into Pago Pago harbor of American Samoa.

In evaluating your request, we reviewed the information you provided and examined pertinent information in our files. Information from these sources show no designated critical habitat in or near the proposed project area. However, there may be green sea turtles (*Chelonia mydas*) in or near Pago Pago Harbor. The green sea turtle is listed as threatened under the Federal Endangered Species Act. We also suggest that you contact directly the Department of Marine and Wildlife Resources on Samoa and the Department of Fisheries at the National Oceanographic and Atmospheric Administration (NOAA) for detailed information regarding potential impacts of the proposed work on local flora and fauna.

We appreciate the opportunity to provide comments on the proposed project. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Dr. Peter Cohen (phone: 808/792-9409; fax: 808/792-9581).

Sincerely,

  
Patrick Leonard  
Field Supervisor

TAKE PRIDE<sup>®</sup>  
IN AMERICA 



## United States Department of the Interior

### FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122, Box 50088  
Honolulu, Hawaii 96850



In Reply Refer To:  
2007-SL-0095

FEB 22 2007

Ms. Sara Greiner  
CWA Standards and Permits Office  
United States Environmental Protection Agency  
75 Hawthorne Street  
San Francisco, California 94105-3901

Subject: Proposed National Pollutant Discharge Elimination System (NPDES) Permit for StarKist Samoa, Inc. (Permit No. AS0000019) and COS Samoa Packing Company (Permit No. AS0000027)

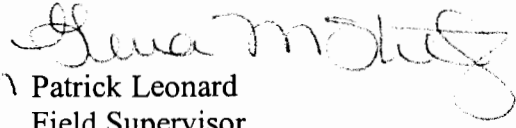
Dear Ms. Greiner:

Thank you for your letter of January 17, 2007 received in our office on January 23, 2007, requesting information on proposed or listed species or critical habitat that may occur in or near the proposed work area on Samoa. The request is to establish informal consultation on the re-issuance of two NPDES permits to discharge pollutants into Pago Pago harbor of American Samoa.

In evaluating your request, we reviewed the information you provided and examined pertinent information in our files. Information from these sources show no designated critical habitat in or near the proposed project area. However, there may be green sea turtles (*Chelonia mydas*) in or near Pago Pago Harbor. The green sea turtle is listed as threatened under the Federal Endangered Species Act. We also suggest that you contact directly the Department of Marine and Wildlife Resources on Samoa and the Department of Fisheries at the National Oceanographic and Atmospheric Administration (NOAA) for detailed information regarding potential impacts of the proposed work on local flora and fauna.

We appreciate the opportunity to provide comments on the proposed project. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Dr. Peter Cohen (phone: 808/792-9409; fax: 808/792-9581).

Sincerely,

  
Patrick Leonard  
Field Supervisor

TAKE PRIDE®  
IN AMERICA 



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street**

**San Francisco, CA 94105-3901**

**JAN 17 2007**

In Reply  
Refer to: WTR-5

Mr. Patrick Leonard  
U.S. Fish and Wildlife Service  
Pacific Islands Fish and Wildlife Office  
300 Ala Moana Boulevard, Room 3-122  
Honolulu, Hawai'i 96850

RE: REQUEST FOR INFORMAL CONSULTATION ON THE RE-ISSUANCE OF  
TWO (2) NPDES PERMITS

Dear Mr. Leonard:

The U.S. Environmental Protection Agency ("EPA") is requesting the initiation of informal consultation on the re-issuance of two National Pollutant Discharge Elimination System ("NPDES") permits for authorization to discharge pollutants into Pago Pago Harbor of American Samoa. The re-issuance of NPDES permits is subject to the requirements of Section 7(a)(2) of the Endangered Species Act, which requires each Federal agency to consult with the U.S. Fish and Wildlife Service to ensure that it is not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. The purpose of this letter is to request a list of Federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago Harbor or in the vicinity of the discharges, as part of the informal consultation on re-issuance of the following NPDES permits.

NPDES Permit No. AS0000019	StarKist Samoa, Inc.
NPDES Permit No. AS0000027	COS Samoa Packing Company

In general, Starkist Samoa, Inc. and COS Samoa Packing Company individually own and operate tuna cannery processing facilities located on the island of Tutuila in Pago Pago, American Samoa. The facilities discharge treated fish process wastewater through a shared single outfall and diffuser located at a depth of approximately 176 feet in the Outer Harbor area of Pago Pago Harbor. The combined daily maximum flow rate from the outfall is 3.82 MGD.

Please provide me a list of Federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago Harbor that may be impacted by the discharges described above.

If you have any questions regarding this request, please feel free to contact me by telephone at (415) 972-3042 or electronic mail at [greiner.sara@epa.gov](mailto:greiner.sara@epa.gov). Thank you for your timely assistance in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "S. Greiner".

Sara N. Greiner  
CWA Standards and Permits Office





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**

**REGION IX**

**75 Hawthorne Street  
San Francisco, CA 94105-3901**

**JAN 17 2007**

In Reply  
Refer to: WTR-5

Mr. Chris Yates  
National Marine Fisheries Service  
Pacific Islands Regional Office  
1601 Kapiolani Boulevard, Suite 1110  
Honolulu, Hawai'i 96814

RE: REQUEST FOR INFORMAL CONSULTATION ON THE RE-ISSUANCE OF  
TWO (2) NPDES PERMITS

Dear Mr. Yates:

The U.S. Environmental Protection Agency ("EPA") is requesting the initiation of informal consultation on the re-issuance of two National Pollutant Discharge Elimination System ("NPDES") permits for authorization to discharge pollutants into Pago Pago Harbor of American Samoa. The re-issuance of NPDES permits is subject to the requirements of Section 7(a)(2) of the Endangered Species Act, which requires each Federal agency to consult with the National Marine Fisheries Service to ensure that it is not undertaking, funding, permitting, or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. The purpose of this letter is to request a list of Federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago Harbor or in the vicinity of the discharges, as part of the informal consultation on re-issuance of the following NPDES permits.

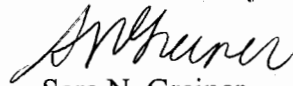
NPDES Permit No. AS0000019	StarKist Samoa, Inc.
NPDES Permit No. AS0000027	COS Samoa Packing Company

In general, Starkist Samoa, Inc. and COS Samoa Packing Company individually own and operate tuna cannery processing facilities located on the island of Tutuila in Pago Pago, American Samoa. The facilities discharge treated fish process wastewater through a shared single outfall and diffuser located at a depth of approximately 176 feet in the Outer Harbor area of Pago Pago Harbor. The combined daily maximum flow rate from the outfall is 3.82 MGD.

Please provide me a list of Federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago Harbor that may be impacted by the discharges described above.

If you have any questions regarding this request, please feel free to contact me by telephone at (415) 972-3042 or electronic mail at [greiner.sara@epa.gov](mailto:greiner.sara@epa.gov). Thank you for your timely assistance in this matter.

Sincerely,

A handwritten signature in cursive script, appearing to read "S. Greiner".

Sara N. Greiner  
CWA Standards and Permits Office

Wastewater Summary Report for the month of April 2008

75°F  
90°F 6.5-8.6

2520  
1008

9960  
3960

309  
192

2120  
1200

4045  
2016

April 2008 to June 2010  
Sharkist

Date	April Production Tons	2008 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia Eff mg/l	BOD Eff mg/l
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day		
1	486.2120	1.500000	752.6	20.7	85	6.7	7.0	67.2	838.3	158.0	1970.9	13.1	163.4	66.0	823.3	13.0	618.0
2	472.8185	1.690000	720.8	21.2	90	6.7	7.2					11.0	154.6	73.0	1025.9		
3	491.1950	1.940000	651.9	20.4	90	6.7	7.2										
4	495.9380	1.900000	646.6	19.9	90	6.7	6.8										
5	479.1290	1.430000	630.7	19.5	89	6.7	7.4										
6		1.100000	651.9	18.7	93	6.8	7.3										
7	491.9700	1.600000	657.2	20.4	82	6.8	7.2										
8	509.3180	1.820000	641.3	20.4	86	6.8	6.9	43.6	659.9	168.7	2553.3	11.1	168.0	75.0	1135.1	17.7	560.7
9	490.4905	1.760000	662.5	20.4	88	6.7	6.9					11.4	166.9	76.0	1112.3		
10	512.1830	1.890000	598.8	20.4	88	6.9	7.0										
11	463.4305	1.870000	646.6	20.3	87	6.9	7.1										
12	477.5840	1.320000	567.1	18.0	89	6.7	7.2										
13		0.500000	174.9	5.6	78	6.9	7.2										
14	SHUT DOWN	0.070000	79.5	2.1	85	6.9	7.0										
15	SHUT DOWN	0.000000	0.0	0.0	0	0.0	0.0										
16	SHUT DOWN	0.000000	0.0	0.0	0	0.0	0.0										
17	SHUT DOWN	0.330000	63.6	2.3	72	7.2	7.4										
18	SHUT DOWN	0.140000	79.5	2.8	75	7.5	7.5										
19	SHUT DOWN	0.060000	26.5	0.8	74	7.5	7.5										
20	SHUT DOWN	0.110000	106.0	3.5	78	7.1	7.1										
21	SHUT DOWN	0.200000	84.8	2.5	78	6.9	7.2										
22	SHUT DOWN	0.200000	143.1	3.9	81	6.9	7.9										
23	SHUT DOWN	0.090000	79.5	2.8	79	7.0	8.1										
24	SHUT DOWN	0.140000	121.9	3.4	80	6.7	7.4										
25	SHUT DOWN	0.310000	111.3	3.4	80	7.0	7.2										
26	SHUT DOWN	0.260000	190.8	6.8	80	6.8	7.2										
27		0.850000	402.8	12.7	79	6.7	7.1										
28	428.3920	1.660000	646.6	19.9	80	6.7	7.3										
29	450.5905	1.470000	614.8	20.2	87	6.9	7.2	21.0	256.7	163.3	1996.3	11.9	145.5	74.0	904.6	30.9	554.5
30	490.3225	1.580000	604.2	20.3	86	6.7	7.2					11.2	147.2	78.0	1024.9		
TOT	6739.5735	27.790000	11357.8	353.3					1754.9		6520.5		945.6		6026.1		
AVG	481.3981	0.992500	405.6	12.6	83			43.9	585.0	163.3	2173.5	11.6	157.6	73.7	1004.4	20.5	577.7

Wastewater Summary Report for the month of May 2008

Date	May	2008	Alum #/day	Poly #/day	Max Temp °F	pH Limits		Oil & Grease		TSS		TP		TN		Total	BOD5
	Production Tons	Flow mgd				Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Ammonia Eff mg/l	Eff mg/l
1	458.8120	1.600000	614.8	18.9	87	6.8	7.2										
2	548.4200	1.460000	556.5	19.5	93	6.8	7.1										
3	0.0000	0.510000	296.8	9.0	83	6.9	7.2										
4	0.0000	0.780000	503.5	14.2	84	6.8	7.2										
5	543.8983	1.480000	583.0	20.2	86	6.7	7.2										
6	522.5238	1.560000	598.9	20.3	84	6.7	6.9	74.2	962.6	232.7	3018.8	9.1	118.1	76.0	985.9	22.5	587.3
7	535.2925	1.490000	604.2	20.4	82	6.8	7.1					9.7	120.2	72.0	892.1		
8	530.8700	1.560000	604.2	20.3	86	6.7	7.0										
9	510.3610	1.120000	583.0	20.0	86	6.7	7.2										
10	0.0000	0.510000	302.1	9.9	83	6.9	7.6										
11	0.0000	0.940000	461.1	15.8	82	6.7	7.2										
12	551.2035	1.620000	673.1	20.3	84	7.1	7.3										
13	516.6795	1.540000	667.8	19.9	90	6.9	7.1	29.8	381.6	130.0	1664.9	11.1	142.2	76.0	973.3	15.9	523.0
14	585.5705	1.740000	667.8	20.3	89	6.8	7.1					11.2	162.1	74.0	1070.8		
15	565.6655	1.620000	673.1	19.6	81	7.0	7.2										
16	518.6750	1.660000	630.7	19.5	82	6.9	7.2										
17	533.5555	1.260000	636.0	18.6	82	6.8	7.2										
18	0.0000	1.000000	577.7	17.8	82	6.9	7.1										
19	484.6050	1.460000	651.9	19.3	82	7.0	7.3										
20	484.4195	1.570000	662.5	20.3	81	7.0	7.2	55.8	728.5	234.0	3055.1	11.1	144.9	76.0	992.3	18.9	587.0
21	490.8690	1.660000	667.8	20.4	80	6.9	7.2					11.0	151.9	69.0	952.5		
22	496.0515	1.710000	662.5	20.3	82	6.9	7.1										
23	511.6635	1.810000	662.5	20.3	81	7.0	7.1										
24	477.3015	1.480000	609.5	18.6	80	6.7	7.1										
25	0.0000	0.320000	318.0	9.3	83	6.7	7.5										
26	0.0000	0.860000	413.4	12.7	82	6.7	7.2										
27	497.7390	1.530000	636.0	20.3	84	6.9	7.2										
28	499.1575	1.680000	636.0	19.6	87	6.9	7.1	18.3	255.7	183.3	2560.9	10.3	143.9	50.0	698.5	17.5	498.0
29	516.4945	1.630000	641.3	20.3	88	6.9	7.1					10.5	142.3	63.0	854.0		
30	473.0015	1.550000	577.7	19.5	89	7.0	7.1										
31	480.2115	1.310000	625.4	20.3	88	6.8	7.1										
TOT	12333.0411	42.020000	17998.8	565.7					2328.4		10299.6		1125.6		7419.4		
AVG	513.8767	1.355484	580.6	18.2	84			44.5	582.1	195.0	2574.9	10.5	140.7	69.5	927.4	18.7	548.8

**Wastewater Summary Report for the month of June 2008**

Date	June Production Tons	2008 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia Eff mg/l	BOD5 Eff mg/l
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day		
1		1.120000	588.3	17.6	91	6.7	6.9										
2	495.5620	1.620000	683.7	20.4	81	6.7	6.9										
3	498.9975	1.790000	694.3	20.3	88	6.8	7.0	24.9	370.7	140.7	2094.4	11.2	166.7	82.0	1220.6	28.2	557.0
4	493.2405	1.870000	683.7	20.4	86	6.8	7.0					11.3	175.7	81.0	1259.6		
5	495.8620	2.130000	651.9	20.3	86	6.7	7.1										
6	489.3120	2.000000	710.2	20.3	86	6.7	7.0										
7	483.2880	1.600000	561.8	18.8	88	6.7	6.9										
8		1.240000	577.7	16.9	79	6.7	6.9										
9	505.7225	1.730000	657.2	19.5	88	6.7	6.9										
10	530.2635	1.740000	683.7	19.6	88	6.7	7.0	26.6	384.9	180.7	2614.7	11.1	160.6	71.0	1027.4	26.0	578.0
11	521.2785	1.410000	736.7	19.6	88	6.7	6.9					11.2	131.3	73.0	856.0		
12		0.560000	286.2	8.0	81	6.7	6.9										
13		0.170000	174.9	5.5	83	6.7	6.9										
14		0.430000	185.5	4.2	78	6.7	6.9										
15		0.820000	445.2	13.5	82	6.7	6.9										
16	547.9210	1.680000	731.4	20.3	84	6.7	6.9										
17	545.0140	1.840000	720.8	21.2	81	6.7	6.9	31.1	475.9	184.7	2826.2	12.4	189.7	69.0	1055.8	14.1	
18	563.6420	1.890000	704.9	20.4	80	6.8	6.9					11.2	176.0	64.0	1005.9		441.0
19	565.4190	1.740000	699.6	20.3	86	6.8	7.0										
20	565.2355	1.410000	710.2	20.2	86	6.8	6.9										
21		0.520000	206.7	5.9	79	6.7	6.9										
22		0.790000	376.3	10.2	80	6.7	6.9										
23	574.0175	1.590000	625.4	19.5	80	6.7	6.9										
24	602.8875	1.790000	609.5	18.6	79	6.7	6.9										
25	594.6710	1.720000	636.0	19.3	85	6.8	7.0	23.0	329.0	152.0	2174.1	13.1	187.4	73.0	1044.2	28.3	
26	581.3285	1.840000	736.7	20.3	86	6.8	6.9					9.8	150.0	54.0	826.3		606.8
27	537.7310	1.860000	747.3	20.2	86	6.8	6.9										
28	530.9065	1.300000	720.8	19.3	88	6.8	6.9										
29		1.090000	604.2	16.9	80	6.8	6.9										
30	548.6080	1.470000	784.4	20.3	80	6.7	6.9										
<b>TOT</b>	11270.9080	42.760000	17935.2	517.8					1560.5		9709.4		1337.4		8295.8		
<b>AVG</b>	536.7099	1.425333	597.8	17.3	84			26.4	390.1	164.5	2427.4	11.4	167.2	70.9	1037.0	24.2	545.7

Wastewater Summary Report for the month of July 2008

Date	July	2008	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total	BOD
	Production Tons	Flow mgd				Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Ammonia Eff mg/l	Eff mg/l
1		1.780000															
2		2.060000															
3		1.550000															
4		0.550000															
5		0.310000															
6		0.960000															
7		1.640000															
8		1.880000															
9		1.780000															
10		1.740000															
11		1.360000															
12		0.570000															
13		0.930000															
14		1.520000															
15		1.720000															
16		1.680000															
17		1.650000															
18		1.330000															
19		0.510000															
20		0.780000															
21		1.440000															
22		1.560000															
23		1.570000															
24		1.630000															
25		1.240000															
26		0.380000															
27		0.770000															
28		1.530000															
29		1.720000															
30																	
31																	
TOT	0.0000	38.140000	0.0	0.0													
AVG		0.969087															

28

## Wastewater Summary Report for the month of

[illegible]

**Wastewater Summary Report for the month of**[illegible]



**Wastewater Summary Report for the month of October 2008**

Date	October Production Tons	2008 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1	545.7188	1.790000	863.9	22.4	82	6.8	7.1	11.4	155.5	94.7	1409.7	9.3	138.4	65.0	967.6	27.1	403.4		
2	554.9045	1.930000	874.5	24.8	81	6.8	7.0					9.6	154.1	78.0	1251.9				
3	531.4888	1.620000	810.9	21.6	85	6.8	7.1												
4		0.260000	196.1	5.1	78	6.9	6.9												
5		0.880000	556.5	16.4	80	<del>7.0</del>	<del>7.3</del>												
6	518.3435	1.530000	816.2	22.8	79	6.7	<del>7.2</del>												
7	485.9135	1.630000	863.9	24.7	83	<del>7.0</del>	<del>7.2</del>												
8	492.4700	1.640000	863.9	24.7	85	<del>7.0</del>	<del>7.2</del>	16.3	222.3	120.7	1646.1	11.4	155.5	78.0	1063.8	27.7	377.8		
9	508.0480	1.480000	895.7	25.9	85	6.9	<del>7.2</del>					12.6	155.1	62.0	763.1				
10	477.9705	1.590000	800.3	23.8	86	6.9	<del>7.2</del>												
11		0.240000	259.7	7.5	79	6.7	6.9												
12		0.090000	111.3	3.0	80	6.9	7.0												
13		0.180000	90.1	3.1	79	<del>7.0</del>	7.1												
14		0.850000	583.0	17.1	80	6.7	<del>7.2</del>												
15	261.1565	1.370000	885.1	24.8	83	6.7	<del>7.4</del>												
16	280.5315	1.440000	885.1	25.4	82	6.9	<del>7.4</del>	14.7	176.0	123.3	1476.5	9.0	107.8	45.0	538.9	34.5	413.1		
17	240.5810	1.200000	874.5	23.3	84	6.9	<del>7.4</del>					8.5	84.8	41.0	409.1			246.5	2459.9
18	115.0010	0.770000	524.7	15.7	80	6.8	<del>7.4</del>												
19		0.250000	174.9	5.4	79	6.9	<del>7.2</del>												
20		0.840000	641.3	18.4	88	6.7	<del>7.2</del>												
21	540.6425	1.600000	874.5	24.4	85	6.7	<del>7.2</del>												
22	490.0725	1.560000	890.4	25.1	90	6.9	<del>7.3</del>	20.8	269.8	134.0	1738.4	9.0	116.8	58.0	752.4	30.4	394.4	593.2	7695.6
23	543.3905	1.640000	863.9	23.4	87	6.9	<del>7.2</del>					9.8	133.7	53.0	722.8				
24	523.6550	1.430000	863.9	24.4	82	6.8	<del>7.5</del>												
25		0.520000	333.9	9.9	80	6.8	<del>7.3</del>												
26		1.070000	694.3	20.3	80	6.9	7.1												
27	539.1740	1.560000	879.8	25.9	83	6.7	<del>7.4</del>												
28	540.2910	1.890000	858.6	25.4	87	6.9	<del>7.2</del>	21.8	342.6	118.0	1854.6	10.7	168.2	63.0	990.2	36.8	578.4		
29	538.7255	1.860000	885.1	25.4	88	6.9	7.1					9.5	146.9	80.0	1237.4			540.0	8352.6
30	543.9533	1.880000	879.8	26.2	88	<del>7.0</del>	<del>7.2</del>												
31	548.0935	1.840000	874.5	24.5	90	6.8	7.1												
	9820.1254	38.430000	21470.3	610.8					1180.4		8125.3		1361.3		8697.2		2167.1		18508.1
	467.6250	1.239677	692.6	19.7	83			17.0	236.1	118.1	1625.1	9.9	136.1	62.3	869.7	31.3	433.4	459.9	6169.4

21

54

Wastewater Summary Report for the month of November 2008

Date	Novemeber	2008	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd				Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1	532.3993	1.410000	816.2	23.3	85	6.8	<del>7.2</del>												
2		0.880000	556.5	16.6	80	6.9	<del>7.4</del>												
3	562.5670	1.700000	869.2	25.0	80	6.6	<del>7.3</del>												
4	544.1005	1.830000	901.0	25.5	81	6.8	<del>7.3</del>	12.3	187.2	92.0	1400.1	9.0	137.0	69.0	1050.1	17.7	269.4	450.0	6848.2
5	557.6970	1.880000	874.5	25.7	86	6.9	<del>7.3</del>					9.4	147.0	80.0	1250.7				
6	518.6510	1.940000	869.2	25.2	86	<del>7.1</del>	<del>7.3</del>												
7	545.1720	1.580000	651.9	20.0	86	<del>7.0</del>	<del>7.4</del>												
8		0.770000	296.8	8.6	78	<del>7.0</del>	<del>7.3</del>												
9		1.020000	694.3	19.9	81	6.6	<del>7.2</del>												
10	553.4035	1.660000	895.7	26.8	84	6.7	<del>7.3</del>												
11	551.0735	1.810000	869.2	25.2	83	6.8	<del>7.3</del>	35.1	528.3	135.3	2036.5	10.6	159.6	79.0	1189.1	18.9	284.5		
12	551.8680	1.790000	879.8	25.2	85	6.9	7.1					9.1	135.5	80.0	1190.9			631.7	9403.3
13	584.2675	1.880000	879.8	24.5	87	6.9	<del>7.2</del>												
14	548.8658	1.980000	832.1	25.9	86	6.9	<del>7.2</del>												
15	556.3743	1.740000	879.8	24.3	87	6.9	<del>7.3</del>												
16		1.410000	863.9	25.8	85	6.8	<del>7.2</del>												
17	554.6790	1.630000	885.1	27.1	87	6.8	<del>7.2</del>												
18	555.6103	1.870000	885.1	25.8	88	6.7	<del>7.2</del>												
19	545.8690	1.890000	885.1	25.2	86	6.9	7.1	12.3	193.3	88.7	1394.1	9.2	144.6	78.0	1225.9	33.2	521.8		
20	554.5995	1.990000	874.5	25.9	86	6.7	<del>7.2</del>					10.7	177.1	62.0	1026.0			442.5	7322.9
21	549.1015	2.180000	879.8	26.1	86	6.9	<del>7.2</del>												
22	573.4310	1.760000	879.8	25.8	86	6.7	<del>7.2</del>												
23		1.510000	858.6	24.4	86	<del>7.0</del>	<del>7.2</del>												
24	550.6778	1.700000	869.2	24.7	85	6.9	<del>7.2</del>												
25	553.3488	2.400000	895.7	26.2	87	6.9	<del>7.2</del>	24.7	493.0	132.7	2648.5	10.0	199.6	73.0	1457.0	28.3	564.8	435.0	8681.9
26	536.4728	1.530000	858.6	24.7	94	6.8	<del>7.3</del>					9.5	120.9	72.0	916.1				
27		0.310000	318.0	8.9	79	<del>7.0</del>	<del>7.2</del>												
28		0.240000	143.1	3.9	79	6.8	<del>7.2</del>												
29		0.380000	185.5	5.5	80	6.7	<del>7.4</del>												
30		0.490000	535.3	15.7	82	6.7	<del>7.3</del>												
TOT	11580.2291	45.160000	22583.3	657.4					1401.8		7479.2		1221.3		9305.8		1640.5		32256.3
AVG	551.4395	1.505333	752.8	21.9	84			21.1	350.5	112.1	1869.8	9.7	152.7	74.1	1163.2	24.5	410.1	489.8	8064.1

42

44

**Wastewater Summary Report for the month of December 2008**

Date	December	2008	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total mg/l
1	562.0320	1.830000	874.5	24.7	84	6.8	<del>7.2</del>												
2	549.9858	1.930000	858.6	25.0	85	6.9	<del>7.2</del>	13.1	210.3	102.0	1637.1	9.6	154.1	78.0	1251.9	31.6	507.2		
3	543.7950	1.850000	853.3	24.0	86	<del>7.0</del>	<del>7.3</del>					11.0	169.2	79.0	1215.4			425.0	6538.5
4	566.5980	1.900000	879.8	25.5	86	<del>7.1</del>	<del>7.2</del>												
5	557.4030	1.630000	874.5	24.4	87	6.7	<del>7.2</del>												
6		0.660000	397.5	12.1	78	6.8	<del>7.2</del>												
7		1.060000	646.6	19.2	78	6.7	7.0												
8	530.0365	1.470000	593.6	18.5	83	6.7	<del>7.2</del>												
9	542.6413	1.650000	885.1	25.5	88	6.7	<del>7.2</del>												
10	567.4830	1.670000	869.2	25.1	87	6.8	<del>7.2</del>	12.1	168.0	120.0	1666.5	10.0	138.9	77.0	1069.4	26.9	373.6	651.7	9050.6
11	547.2798	1.640000	874.5	25.5	87	<del>7.0</del>	<del>7.2</del>					10.7	145.9	77.0	1050.1				
12	541.4308	1.700000	879.8	25.7	88	6.9	<del>7.2</del>												
13	567.1235	1.320000	694.3	20.3	88	6.8	<del>7.2</del>												
14		1.020000	519.4	15.7	88	6.7	<del>7.4</del>												
15	522.6500	1.490000	789.7	23.4	86	6.7	<del>7.3</del>												
16	551.9555	1.700000	863.0	25.7	89	6.9	<del>7.3</del>	32.3	456.6	143.3	2025.9	11.1	156.9	82.0	1159.3	18.9	267.2		
17	554.4848	1.760000	890.4	25.0	89	6.9	<del>7.2</del>					9.5	139.0	75.0	1097.7			511.7	7489.3
18	500.5598	1.720000	805.6	23.7	86	6.9	<del>7.2</del>												
19	510.3335	1.390000	837.4	26.4	93	6.9	<del>7.3</del>												
20	SHUT DOWN	0.390000	286.2	9.0	79	<del>7.0</del>	<del>7.2</del>												
21	SHUT DOWN	0.080000	74.2	2.0	80	6.9	7.0												
22	SHUT DOWN	0.220000	74.2	2.0	80	<del>7.0</del>	7.0												
23	SHUT DOWN	0.190000	100.7	3.1	80	<del>7.0</del>	7.0												
24	SHUT DOWN	0.210000	148.4	3.9	82	<del>7.0</del>	7.0												
25	SHUT DOWN	0.140000	111.3	3.1	81	6.9	7.0												
26	SHUT DOWN	0.050000	74.2	2.1	81	<del>7.0</del>	7.0												
27	SHUT DOWN	0.140000	74.2	2.0	80	<del>7.0</del>	7.0												
28	SHUT DOWN	0.160000	63.6	2.4	80	<del>7.0</del>	<del>7.4</del>												
29	SHUT DOWN	0.000000	0.0	0.0	0	0.0	0.0												
30	SHUT DOWN	0.050000	74.2	2.1	84	<del>7.0</del>	<del>7.4</del>												
31	SHUT DOWN	0.000000	0.0	0.0	0	0.0	0.0												
TOT	8715.7923	31.020000	15968.0	467.1					834.9		5329.5		904.0		6843.8		1148.0		23078.4
AVG	544.7370	1.069655	550.6	16.1	84			19.2	278.3	121.8	1776.5	10.3	150.7	78.0	1140.6	25.8	382.7	529.5	7692.8

**Wastewater Summary Report for the month of January 2009**

Date	January	2009			Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	Alum #/day	Poly #/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1		0.000000	0.0	0.0	0	0.0	0.0												
2		0.000000	0.0	0.0	0	0.0	0.0												
3		0.260000	63.6	2.8	82	<del>7.0</del>	7.0												
4		0.780000	625.4	18.5	81	6.7	<del>7.2</del>												
5	488.4040	1.400000	710.2	21.0	82	6.9	7.1												
6	378.0625	1.570000	863.9	23.7	85	6.8	<del>7.4</del>												
7	421.2060	1.600000	869.2	23.5	85	6.7	<del>7.4</del>	13.1	174.3	83.3	1108.4	7.8	103.8	46.0	612.1	20.7	275.4	455.7	6063.4
8	435.3685	1.720000	890.4	24.1	86	6.9	<del>7.2</del>					9.6	137.3	60.0	858.2				
9	471.5410	1.430000	879.8	23.7	86	6.7	<del>7.2</del>												
10		0.340000	227.9	6.9	79	<del>7.0</del>	<del>7.3</del>												
11		0.270000	164.3	3.8	79	6.9	<del>7.2</del>												
12		0.860000	667.8	18.2	80	6.9	<del>7.2</del>												
13	500.2585	1.390000	874.5	24.3	83	6.8	<del>7.2</del>												
14	446.8900	1.610000	874.5	25.5	84	6.9	<del>7.2</del>	12.4	166.0	134.0	1794.1	10.8	144.6	56.0	749.8	22.8	305.3	540.0	7229.9
15	480.2425	1.680000	879.8	25.9	87	6.9	7.1					10.8	150.9	57.0	796.3				
16	493.3820	1.210000	757.9	22.1	92	6.9	<del>7.2</del>												
17		0.230000	206.7	6.1	84	<del>7.0</del>	7.0												
18		0.210000	111.3	3.2	80	<del>7.0</del>	7.1												
19		0.760000	598.9	16.8	90	6.8	<del>7.2</del>												
20	478.9560	1.440000	853.3	23.0	88	6.8	<del>7.2</del>												
21	449.7720	1.470000	869.2	23.1	84	6.8	<del>7.3</del>	13.2	161.4	100.7	1231.0	7.8	95.4	53.0	647.9	21.7	265.3		
22	481.3870	1.830000	874.5	23.0	84	6.7	<del>7.2</del>					7.1	108.0	44.0	669.6			340.0	5174.2
23	469.5400	1.280000	593.4	19.6	88	6.8	<del>7.3</del>												
24		0.500000	275.6	7.9	82	6.9	<del>7.2</del>												
25		0.210000	121.9	3.1	80	6.9	7.0												
26		0.940000	651.9	17.9	88	6.8	<del>7.2</del>												
27	481.2310	1.440000	890.4	24.0	83	6.9	7.0												
28	430.2750	1.690000	885.1	24.8	82	<del>7.0</del>	7.0	29.5	414.6	138.7	1949.3	8.2	115.2	55.0	773.0	11.4	160.2		
29	505.7060	1.710000	895.7	24.5	80	<del>7.0</del>	7.0					9.5	135.1	48.0	682.6			364.3	5180.5
30	552.7760	1.410000	742.0	20.7	80	<del>7.0</del>	7.0												
31		0.370000	222.6	7.5	80	6.9	<del>7.3</del>												
	7964.9980	31.610000	18141.7	509.2					916.3		6082.8		990.3		5789.5		1006.2		23648.0
	468.5293	1.090000	625.6	17.6	84			17.1	229.1	114.2	1520.7	9.0	123.8	52.4	723.7	19.2	251.6	425.0	5912.0

75

146

**Wastewater Summary Report for the month of February 2009**

Date	February	2009	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd				Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1		0.190000	111.3	3.1	79	6.9	<del>7.2</del>												
2		0.930000	636.0	17.6	80	6.8	<del>7.3</del>												
3	521.3835	<del>1.510000</del>	879.8	24.1	80	6.8	7.1												
4	526.7228	1.580000	895.7	25.1	84	6.8	<del>7.3</del>	26.3	345.6	126.7	1664.7	9.6	126.1	52.0	683.2	17.3	227.3		
5	529.4350	1.540000	869.2	24.0	84	<del>7.0</del>	<del>7.2</del>					12.4	158.8	71.0	909.3			613.3	7854.3
6	519.1953	1.380000	773.8	21.3	90	6.7	7.1												
7		0.160000	148.4	3.7	81	6.7	6.8												
8		0.290000	100.7	3.1	80	6.8	6.9												
9		0.960000	657.2	17.9	80	6.7	<del>7.3</del>												
10	512.7470	1.580000	757.9	22.3	83	6.8	7.1												
11	508.2480	1.680000	858.6	23.4	83	6.8	<del>7.2</del>	37.9	529.5	148.0	2067.7	8.6	120.1	79.0	1103.7	16.5	230.5		
12	516.0438	1.720000	869.2	23.4	82	6.8	<del>7.3</del>					7.8	111.6	56.0	801.0			314.0	4491.3
13	514.5870	1.430000	826.8	22.8	83	6.7	<del>7.3</del>												
14		0.380000	360.0	9.3	80	<del>7.0</del>	<del>7.2</del>												
15		0.220000	116.6	3.1	80	<del>7.0</del>	7.0												
16		0.180000	100.7	3.1	84	6.9	7.0												
17		0.790000	598.9	16.4	87	6.9	<del>7.2</del>												
18	499.2045	1.520000	842.7	24.1	80	6.8	7.0												
19	510.2843	1.730000	832.1	23.7	80	6.9	7.1	11.7	168.3	119.3	1716.3	10.1	145.3	81.0	1165.3	18.1	260.4	491.5	7071.1
20	502.5198	1.530000	879.8	24.8	91	<del>7.0</del>	<del>7.2</del>					13.4	170.5	85.0	1081.5				
21	473.9795	1.200000	736.7	20.4	85	6.9	<del>7.2</del>												
22		1.220000	736.7	21.2	82	<del>7.0</del>	<del>7.3</del>												
23	502.7113	1.250000	773.8	22.1	89	6.9	7.1												
24	518.3793	1.480000	805.6	23.5	85	<del>7.0</del>	<del>7.2</del>												
25	467.4485	1.470000	885.1	24.1	86	6.9	<del>7.2</del>	16.5	201.7	107.3	1311.7	12.7	155.3	70.0	855.7	19.7	240.8	397.3	4856.8
26	480.8680	1.460000	885.1	24.0	90	6.8	7.0					13.1	159.1	74.0	898.5				
27	476.6985	1.310000	757.9	20.6	90	6.9	<del>7.2</del>												
28		0.540000	222.6	6.6	87	<del>7.0</del>	<del>7.2</del>												
TOT	8580.4561	31.230000	17918.9	498.8					1245.1		6760.4		1146.8		7498.2		959.0		24273.5
AVG	504.7327	1.115357	640.0	17.8	84			23.1	311.3	125.3	1690.1	11.0	143.4	71.0	937.3	17.9	239.8	454.0	6068.4

92

179

**Wastewater Summary Report for the month of March 2009**

Date	March	2009	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total		BOD5	
	Production Tons	Flow mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	Total #/day	Eff mg/L	Total mg/l
1		0.760000	508.8	14.7	88	6.9	<del>7.2</del>												
2	477.7220	1.710000	832.1	22.3	90	6.9	<del>7.2</del>												
3	472.9923	1.560000	853.3	23.1	90	6.9	7.1												
4	473.8518	1.560000	890.4	22.4	90	6.9	<del>7.2</del>	19.7	255.6	116.7	1513.9	10.8	140.1	74.0	960.0	20.2	262.1		
5	471.1935	1.570000	826.8	23.7	89	6.8	<del>7.2</del>					12.7	165.8	66.0	861.7			513.5	6704.3
6	448.6005	1.360000	795.0	21.4	87	6.9	<del>7.2</del>												
7		0.550000	302.1	8.6	82	<del>7.0</del>	<del>7.7</del>												
8		0.520000	360.4	9.7	84	6.8	<del>7.3</del>												
9	435.0225	1.040000	657.2	19.7	91	6.8	7.1												
10	423.9435	1.200000	747.3	21.0	91	6.8	7.1												
11	449.5353	1.320000	842.7	24.7	90	<del>7.0</del>	7.1	10.4	114.2	86.0	944.0	11.2	122.9	69.0	757.4	39.4	432.5		
12	436.0658	1.370000	848.0	23.7	89	6.9	<del>7.3</del>					12.3	140.1	80.0	911.4			355.0	4044.5
13	431.6193	1.130000	842.7	23.1	88	6.9	<del>7.3</del>												
14		0.520000	371.0	11.1	81	6.9	7.1												
15		0.530000	471.7	13.4	86	6.8	<del>7.3</del>												
16	432.6713	1.090000	683.7	19.3	82	6.8	<del>7.3</del>												
17	434.5568	1.180000	858.6	24.0	83	6.9	<del>7.4</del>	24.7	242.4	140.7	1380.7	11.6	113.8	86.0	843.9	38.2	374.9	438.5	4302.9
18	455.5418	1.350000	874.5	24.4	82	6.8	7.1					10.5	117.9	75.0	842.0				
19	389.9470	1.380000	784.4	21.4	81	6.9	<del>7.2</del>												
20	384.0775	1.110000	657.2	18.9	85	6.9	7.1												
21		0.460000	222.6	5.4	81	6.8	<del>7.2</del>												
22		0.520000	492.9	14.5	82	6.8	<del>7.4</del>												
23	424.5290	1.050000	731.4	20.0	92	6.7	7.0												
24	365.0793	1.280000	848.0	23.1	90	6.8	<del>7.2</del>	11.8	125.6	98.0	1043.2	7.0	74.5	51.0	542.9	22.9	243.8		
25	439.8215	1.380000	863.9	22.3	90	6.9	7.1					7.3	83.8	67.0	768.9			328.5	3769.9
26	400.9360	1.400000	832.1	23.0	88	6.9	7.1												
27	409.3303	1.150000	646.6	17.9	88	6.9	7.0												
28		0.500000	280.9	7.3	81	6.9	7.0												
29		0.580000	524.7	14.1	82	6.9	7.1												
30	402.3250	1.220000	810.9	23.3	86	6.9	<del>7.3</del>												
31	405.8425	1.350000	789.7	21.4	87	6.9	<del>7.2</del>												
TOT	9465.2045	33.700000	21051.6	582.9					637.8		4881.8		958.9		6488.2		1313.3		18821.6
AVG	430.2366	1.087097	679.1	18.8	86			16.7	159.5	110.4	1220.5	10.8	119.9	71.0	811.0	30.2	328.3	408.9	4705.4

114 20<sup>th</sup>

**Wastewater Summary Report for the month of April 2009**

Date	April	2009			Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	Alum #/day	Poly #/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1	442.3685	1.390000	858.6	24.1	88	6.9	<del>7.3</del>	11.1	128.3	89.3	1032.2	7.5	86.7	66.0	762.9	30.4	351.4	290.5	3358.0
2	444.1120	1.550000	858.6	23.5	90	<del>7.0</del>	<del>7.4</del>					10.3	132.8	82.0	1057.0				
3	441.3562	1.440000	704.9	20.0	92	6.8	7.1												
4		0.630000	185.5	5.5	80	6.9	6.9												
5		0.600000	450.5	12.5	85	6.8	6.9												
6	449.9225	1.120000	773.8	22.7	82	6.8	<del>7.2</del>												
7	446.3855	1.350000	848.0	25.0	82	6.8	<del>7.3</del>	32.9	369.4	139.3	1563.9	12.5	140.3	65.0	729.7	42.0	471.5		
8	443.6035	1.410000	848.0	24.5	82	6.9	7.1					9.5	111.4	81.0	949.8			553.5	6490.1
9	481.1055	1.200000	551.2	14.9	82	6.8	7.2												
10		0.370000	222.6	5.8	82	6.5	7.1												
11		0.340000	111.3	3.1	82	6.8	7.0												
12		0.490000	371.0	10.3	81	6.8	<del>7.2</del>												
13	465.1790	1.270000	842.7	22.1	84	6.5	<del>7.2</del>												
14	441.2315	1.400000	858.6	23.7	83	6.9	<del>7.2</del>	13.3	154.8	106.0	1234.1	12.9	150.2	78.0	908.1	44.0	512.3	401.2	4670.9
15	435.8950	1.270000	879.8	23.3	82	<del>7.0</del>	7.0					12.1	127.8	74.0	781.5				
16		0.490000	238.5	6.2	80	<del>7.0</del>	7.1												
17		0.060000	111.3	3.1	81	<del>7.1</del>	7.1												
18		0.290000	174.9	5.5	82	6.8	7.0												
19		0.630000	492.9	13.3	82	6.8	7.0												
20	461.1160	1.190000	879.8	24.5	86	6.6	7.0												
21	446.8570	1.440000	890.4	25.8	88	6.8	6.9	12.9	154.5	80.7	966.4	8.7	104.2	80.0	958.0	36.2	433.5		
22	443.4970	1.440000	869.2	24.7	88	6.8	7.1					9.6	115.0	74.0	886.2			408.5	4891.8
23	454.6853	1.310000	789.7	22.0	90	<del>7.0</del>	<del>7.2</del>												
24	426.2723	1.160000	651.9	18.6	86	<del>7.0</del>	<del>7.2</del>												
25		0.450000	371.0	10.9	89	6.8	7.0												
26		0.720000	445.2	13.0	80	6.8	6.9												
27	479.7765	1.480000	885.1	23.8	89	6.8	7.1												
28	441.2025	1.750000	869.2	24.8	88	6.9	7.1												
29	426.1450	1.420000	890.4	25.1	90	6.8	7.1	26.1	308.2	156.0	1842.2	8.0	94.5	79.0	932.9	34.0	401.5	585.3	6911.6
30	433.8903	1.570000	885.1	25.0	89	6.7	<del>7.2</del>					12.0	156.7	78.0	1018.4				
TOT	8504.6011	31.230000	18809.7	527.3					1115.2		6638.8		1219.6		8984.5		2170.2		26322.4
AVG	447.6106	1.041000	627.0	17.6	85			19.3	223.0	114.3	1327.8	10.3	122.0	75.5	898.5	37.3	434.0	447.8	5264.5

133

235

**Wastewater Summary Report for the month of May 2009**

Date	May	2009			Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	Alum #/day	Poly #/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	mg/L	#/day
1	519.4873	1.380000	726.1	19.0	83	6.8	7.1												
2		0.340000	249.1	6.9	80	6.9	7.0												
3		0.710000	641.3	16.6	82	6.8	<del>7.3</del>												
4	476.7555	1.460000	890.4	24.1	87	6.8	<del>7.2</del>												
5	488.6055	1.470000	890.4	23.5	88	6.9	<del>7.2</del>												
6	481.7605	1.630000	863.9	23.5	89	6.9	7.1	19.7	267.0	92.0	1247.1	10.5	142.3	82.0	1111.5	39.8	539.5	458.5	6215.0
7	442.7950	1.550000	869.2	23.3	89	6.9	7.1					11.9	153.4	60.0	773.4				
8	396.9820	1.210000	636.0	17.2	90	6.8	7.1												
9		0.530000	302.1	8.0	82	6.9	7.0												
10		1.010000	556.5	15.2	80	6.9	7.1												
11	379.6938	1.270000	742.0	19.0	85	6.8	7.0												
12	390.4115	1.450000	885.1	23.6	88	6.9	<del>7.4</del>	9.3	112.1	70.7	852.5	11.4	137.5	77.0	928.5	46.8	564.3		
13	444.4640	1.520000	874.5	24.1	87	6.9	<del>7.2</del>					12.3	155.5	82.0	1036.5			371.0	4689.6
14	400.3263	1.610000	810.9	22.9	88	6.8	7.1												
15	420.3258	1.120000	651.9	18.3	88	6.7	7.0												
16		0.130000	143.1	4.1	86	<del>7.0</del>	7.0												
17		0.710000	508.8	14.0	85	6.9	7.0												
18	380.8395	1.380000	773.8	21.7	86	6.9	<del>7.2</del>												
19	366.4585	1.590000	901.0	23.5	90	6.8	<del>7.2</del>												
20	382.1835	1.400000	895.7	24.7	89	6.8	7.1	10.6	123.4	125.3	1458.8	8.5	99.0	77.0	896.5	38.2	444.7	321.0	3737.2
21	314.8685	1.420000	890.4	24.3	89	6.9	<del>7.2</del>					7.2	85.0	75.0	885.7				
22	214.7670	0.890000	577.7	15.5	89	6.9	<del>7.2</del>												
23		0.310000	185.5	5.4	79	6.9	7.0												
24		0.060000	111.3	2.0	81	<del>7.0</del>	7.0												
25		0.460000	286.2	7.9	81	6.9	<del>7.2</del>												
26	165.5605	1.010000	614.8	15.7	84	6.9	7.0												
27	176.8905	1.210000	858.6	22.8	84	6.9	<del>7.2</del>	7.4	74.5	51.3	516.2	9.9	99.6	58.0	583.6	20.4	205.3		
28	181.2940	1.170000	890.4	20.4	84	6.8	<del>7.2</del>					8.8	85.6	62.0	603.2			269.6	2623.1
29	183.3660	1.280000	742.0	20.0	84	6.9	<del>7.2</del>												
30		0.410000	286.2	7.6	85	6.9	7.1												
31		0.620000	471.7	13.0	81	6.8	6.9												
TOT	7207.8352	32.310000	19726.6	527.8					577.0		4074.6		957.9		6818.9		1753.8		17264.9
AVG	360.3918	1.042258	636.3	17.0	85			11.8	144.3	84.8	1018.7	10.1	119.7	71.6	852.4	36.3	438.5	355.0	4316.2

153



Wastewater Summary Report for the month of June 2009

Date	June	2009	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd				Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total mg/l
1	434.5875	1.240000	805.6	24.1	85	6.7	<del>7.2</del>												
2	421.6100	1.400000	879.8	24.4	90	6.8	<del>7.3</del>	19.2	223.5	106.0	1234.1	9.9	115.26	80.0	931.4	29.7	345.8		
3	429.8240	1.580000	885.1	23.8	88	6.8	7.1												
4	441.4045	1.520000	879.8	24.4	88	6.9	7.1					9.7	122.6	76.0	960.7			499.3	5809.6
5	426.4025	1.300000	731.4	21.0	90	6.9	7.1												
6		1.520000	196.1	5.5	80	6.8	<del>7.2</del>												
7		0.750000	514.1	14.5	80	6.8	7.1												
8	456.6560	1.370000	895.7	24.5	80	6.8	<del>7.2</del>												
9	413.9540	1.600000	895.7	24.7	85	6.9	7.1	20.7	275.4	116.0	1543.4	12.0	159.7	63.0	838.3	28.1	373.9		
10	442.6960	1.570000	885.1	24.8	86	6.8	7.0					7.6	99.2	63.0	822.5			613.2	8006.0
11	393.7005	1.480000	800.3	22.4	85	6.8	<del>7.2</del>												
12	410.6890	1.310000	662.5	17.6	84	6.9	<del>7.2</del>												
13		0.420000	233.2	6.6	95	<del>7.0</del>	<del>7.2</del>												
14		0.610000	477.0	13.7	81	<del>7.0</del>	<del>7.2</del>												
15	417.8970	1.110000	784.4	21.4	80	6.8	7.0												
16	412.2960	1.640000	874.5	23.1	84	6.9	<del>7.2</del>												
17	422.8025	1.660000	863.9	23.3	87	6.9	7.1	8.8	121.5	74.0	1021.5	13.2	182.2	77.0	1063.0	20.1	277.5		
18	425.2675	1.720000	879.8	22.8	85	<del>7.0</del>	<del>7.2</del>					11.6	165.9	77.0	1101.4			311.7	4458.4
19	449.3135	1.360000	789.7	21.6	86	6.8	<del>7.2</del>												
20		0.570000	291.5	8.6	88	6.9	7.0												
21		0.610000	508.8	14.0	82	6.9	<del>7.2</del>												
22	444.6338	1.490000	795.0	22.6	82	6.8	<del>7.3</del>												
23	421.7500	1.550000	885.1	24.4	80	<del>7.0</del>	<del>7.2</del>	18.0	232.0	108.7	1401.1	10.3	132.8	55.0	708.9	29.8	384.1	479.0	6174.2
24	422.6145	1.430000	879.8	24.7	78	6.9	7.1					12.6	149.8	68.0	808.6				
25	440.5855	1.550000	832.1	23.4	79	<del>7.0</del>	<del>7.2</del>												
26	432.8395	1.470000	710.2	19.3	79	6.9	7.1												
27		0.410000	259.7	8.6	80	6.9	7.1												
28		0.230000	180.2	5.5	79	6.9	<del>7.2</del>												
29		0.140000	116.6	3.1	82	6.8	6.9												
30		0.160000	148.4	4.2	82	6.8	6.9												
31																			
TOT	8561.5238	34.770000	19541.1	542.6					852.4		52001		1127.5		7234.8		1381.3		24448.2
AVG	428.0762	1.159000	651.4	18.1	84			16.7	213.1	101.2	1300	10.9	141.0	69.9	904.4	26.9	345.3	475.8	6112.1

173 296

Wastewater Summary Report for the month of July 2009

*Do not include in data review*  
*July and April 2009 identical*

Date	Production Tons	Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1	442.3685	1.390000	858.6	24.1	88	6.9	<del>7.3</del>	11.1	130.2	89.3	1032.2	7.5	86.7	66.0	762.9	30.4	351.4	290.5	3358.0
2	444.1120	1.550000	858.6	23.5	90	<del>7.0</del>	<del>7.4</del>					10.3	132.8	82.0	1057.0				
3	441.3562	1.440000	704.9	20.0	92	6.8	7.1												
4		0.630000	185.5	5.5	80	6.9	6.9												
5		0.600000	450.5	12.5	85	6.8	6.9												
6	449.9225	1.120000	773.8	22.7	82	6.8	7.2												
7	446.3855	1.350000	848.0	25.0	82	6.8	<del>7.0</del>	32.9	369.4	139.3	1563.9	12.5	140.3	65.0	729.7	42.0	471.5		
8	443.6035	1.410000	848.0	24.5	82	6.9	7.1					9.5	111.4	81.0	949.8			553.5	6490.1
9	481.1055	1.200000	551.2	14.9	82	6.8	7.2												
10		0.370000	222.6	5.8	82	6.5	7.1												
11		0.340000	111.3	3.1	82	6.8	7.0												
12		0.490000	371.0	10.3	81	6.8	7.2												
13	465.1790	1.270000	842.7	22.1	84	6.5	7.2												
14	441.2315	1.400000	858.6	23.7	83	6.9	7.2	13.3	154.8	106.0	1234.1	12.9	150.2	78.0	908.1	44.0	512.3	401.2	4670.9
15	435.8950	1.270000	879.8	23.3	82	<del>7.0</del>	7.0					12.1	127.8	74.0	781.5				
16		0.490000	238.5	6.2	80	<del>7.0</del>	7.1												
17		0.060000	111.3	3.1	81	<del>7.1</del>	7.1												
18		0.290000	174.9	5.5	82	6.8	7.0												
19		0.630000	492.9	13.3	82	6.8	7.0												
20	461.1160	1.190000	879.8	24.5	86	6.6	7.0												
21	446.8570	1.440000	890.4	25.8	88	6.8	6.9	12.9	154.5	80.7	966.4	8.7	104.2	80.0	958.0	36.2	433.5		
22	443.4970	1.440000	869.2	24.7	88	6.8	7.1					9.6	115.0	74.0	886.2			408.5	4891.8
23	454.6853	1.310000	789.7	22.0	90	<del>7.0</del>	7.2												
24	426.2723	1.160000	651.9	18.6	86	<del>7.0</del>	7.2												
25		0.450000	371.0	10.9	89	6.8	7.0												
26		0.720000	445.2	13.0	80	6.8	6.9												
27	479.7765	1.480000	885.1	23.8	89	6.8	7.1												
28	441.2025	1.750000	869.2	24.8	88	6.9	7.1												
29	426.1450	1.420000	890.4	25.1	90	6.8	7.1	26.1	308.2	156.0	1842.2	8.0	94.5	79.0	932.9	34.0	401.5	585.3	6911.6
30	433.8903	1.570000	885.1	25.0	89	6.7	7.2					12.0	156.7	78.0	1018.4				
31																			
TOT	8504.6011	31.230000	18809.7	527.3					1117.0		6638.8		1219.6		8984.5		2170.2		26322.4
AVG	447.6106	<del>1.041000</del>	627.0	17.6	85			19.3	<del>229.0</del>	114.3	<del>1327.0</del>	10.3	<del>122.0</del>	<del>76.5</del>	<del>898.5</del>	<del>97.9</del>	<del>434.0</del>	<del>447.8</del>	<del>5264.5</del>

142 3493

178.2

1306.3

155

372

349

31.2

389

429.1

456.2

*Corrected monthly sum BOD5 is 10.5*

Wastewater Summary Report for the month of August 2009

*Do not include data from August and May 2009 in total*

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	mg/L	#/day
1	519.4873	1.380000	726.1	19.0	83	6.8	7.1												
2		0.340000	249.1	6.9	80	6.9	7.0												
3		0.710000	641.3	16.6	82	6.8	7.3												
4	476.7555	1.460000	890.4	24.1	87	6.8	7.2												
5	488.6055	1.470000	890.4	23.5	88	6.9	7.2												
6	481.7605	1.630000	863.9	23.5	89	6.9	7.1	19.7	267.0	92.0	1247.1	10.5	142.3	82.0	1111.5	39.8	539.5	458.5	6215.0
7	442.7950	1.550000	869.2	23.3	89	6.9	7.1					11.9	153.4	60.0	773.4				
8	396.9820	1.210000	636.0	17.2	90	6.8	7.1												
9		0.530000	302.1	8.0	82	6.9	7.0												
10		1.010000	556.5	15.2	80	6.9	7.1												
11	379.6938	1.270000	742.0	19.0	85	6.8	7.0												
12	390.4115	1.450000	885.1	23.6	88	6.9	7.4	9.3	112.1	70.7	852.5	11.4	137.5	77.0	928.5	46.8	564.3		
13	444.4640	1.520000	874.5	24.1	87	6.9	7.2					12.3	155.5	82.0	1036.5			371.0	4689.6
14	400.3263	1.610000	810.9	22.9	88	6.8	7.1												
15	420.3258	1.120000	651.9	18.3	88	6.7	7.0												
16		0.130000	143.1	4.1	86	7.0	7.0												
17		0.710000	508.8	14.0	85	6.9	7.0												
18	380.8395	1.380000	773.8	21.7	86	6.9	7.2												
19	366.4585	1.590000	901.0	23.5	90	6.8	7.2												
20	382.1835	1.400000	895.7	24.7	89	6.8	7.1	10.6	123.4	125.3	1458.8	8.5	99.0	77.0	896.5	38.2	444.7	321.0	3737.2
21	314.8685	1.420000	890.4	24.3	89	6.9	7.2					7.2	85.0	75.0	885.7				
22	214.7670	0.890000	577.7	15.5	89	6.9	7.2												
23		0.310000	185.5	5.4	79	6.9	7.0												
24		0.060000	111.3	2.0	81	7.0	7.0												
25		0.460000	286.2	7.9	81	6.9	7.2												
26	165.5605	1.010000	614.8	15.7	84	6.9	7.0												
27	176.8905	1.210000	858.6	22.8	84	6.9	7.2	7.4	74.5	51.3	516.2	9.9	99.6	58.0	583.6	20.4	205.3		
28	181.2940	1.170000	890.4	20.4	84	6.8	7.2					8.8	85.6	62.0	603.2			269.6	2623.1
29	183.3660	1.280000	742.0	20.0	84	6.9	7.2												
30		0.410000	286.2	7.6	85	6.9	7.1												
31		0.620000	471.7	13.0	81	6.8	6.9												
TOT	7207.8352	32.310000	19726.6	527.8					577.0		4074.6		957.9		6818.9		1753.8		17264.9
AVG	360.3918	<del>1.642258</del>	636.3	17.0	<del>85</del>			11.8	<del>144.3</del>	84.8	<del>1018.2</del>	10.1	<del>119.7</del>	71.6	<del>852.4</del>	<del>36.3</del>	<del>438.5</del>	<del>955.0</del>	4316.2

212

1.245124  
357

89

135

154.2

151.4

932.7

28.5

474.5

475.4

*Corrected averages from BOD5 in 2009*

Wastewater Summary Report for the month of September 2009

*Do not include in data review  
Sept and June 2009: Anomaly!*

Date	Production	Flow	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	mg/L	Total mg/l
1	434.5875	1.240000	805.6	24.1	85	6.7	7.2												
2	421.6100	1.400000	879.8	24.4	90	6.8	7.3	19.2	223.5	106.0	1234.1	9.9	115.26	80.0	931.4	29.7	345.8		
3	429.8240	1.580000	885.1	23.8	88	6.8	7.1												
4	441.4045	1.520000	879.8	24.4	88	6.9	7.1					9.7	122.6	76.0	960.7			499.3	5809.6
5	426.4025	1.300000	731.4	21.0	90	6.9	7.1												
6		1.520000	196.1	5.5	80	6.8	7.2												
7		0.750000	514.1	14.5	80	6.8	7.1												
8	456.6560	1.370000	895.7	24.5	80	6.8	7.2												
9	413.9540	1.600000	895.7	24.7	85	6.9	7.1	20.7	275.4	116.0	1543.4	12.0	159.7	63.0	838.3	28.1	373.9		
10	442.6960	1.570000	885.1	24.8	86	6.8	7.0					7.6	99.2	63.0	822.5			613.2	8006.0
11	393.7005	1.480000	800.3	22.4	85	6.8	7.2												
12	410.6890	1.310000	662.5	17.6	84	6.9	7.2												
13		0.420000	233.2	6.6	95	7.0	7.2												
14		0.610000	477.0	13.7	81	7.0	7.2												
15	417.8970	1.110000	784.4	21.4	80	6.8	7.0												
16	412.2960	1.640000	874.5	23.1	84	6.9	7.2												
17	422.8025	1.660000	863.9	23.3	87	6.9	7.1	8.8	121.5	74.0	1021.5	13.2	182.2	77.0	1063.0	20.1	277.5		
18	425.2675	1.720000	879.8	22.8	85	7.0	7.2					11.6	165.9	77.0	1101.4			311.7	4458.4
19	449.3135	1.360000	789.7	21.6	86	6.8	7.2												
20		0.570000	291.5	8.6	88	6.9	7.0												
21		0.610000	508.8	14.0	82	6.9	7.2												
22	444.6338	1.490000	795.0	22.6	82	6.8	7.3												
23	421.7500	1.550000	885.1	24.4	80	7.0	7.2	18.0	232.0	108.7	1401.1	10.3	132.8	55.0	708.9	29.8	384.1	479.0	6174.2
24	422.6145	1.430000	879.8	24.7	78	6.9	7.1					12.6	149.8	68.0	808.6				
25	440.5855	1.550000	832.1	23.4	79	7.0	7.2												
26	432.8395	1.470000	710.2	19.3	79	6.9	7.1												
27		0.410000	259.7	8.6	80	6.9	7.1												
28		0.230000	180.2	5.5	79	6.9	7.2												
29		0.140000	116.6	3.1	82	6.8	6.9												
30		0.160000	148.4	4.2	82	6.8	6.9												
31																			
TOT	8561.5238	34.770000	19541.1	542.6					852.4		52001		1127.5		7234.8		1381.3		24448.2
AVG	428.0762	<del>1.159000</del>	651.4	18.1	<del>84</del>			16.7	<del>243.1</del>	101.2	<del>1900</del>	10.9	<del>141.0</del>	69.9	<del>904.4</del>	<del>26.0</del>	<del>345.3</del>	<del>475.8</del>	6112.1

232 1.12216 38 90 238.8 437.0 122.7 801.5 22.0 254.2 455.1  
38 1070.3

*Corrected averages from DMR in 2013*

Wastewater Summary Report for the month of Oct 2009

Date	October Production Tons	2009 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23																			
24		0.330000	190.8	4.5	80	<u>7.1</u>	<u>7.2</u>												
25		0.480000	233.2	6.6	80	<u>7.2</u>	<u>7.3</u>												
26	310.9430	0.730000	492.9	14.8	81	<u>7.2</u>	<u>7.3</u>												
27	357.5395	1.600000	901.0	24.7	80	<u>7.2</u>	<u>7.2</u>	15.7	208.9	158.0	2102.3	10.0	133.1	75.0	997.9	28.1	373.9	326.6	4345.6
28	335.8738	1.440000	874.5	24.7	80	<u>7.2</u>	<u>7.3</u>					9.5	113.8	76.0	910.1				
29	179.2240	1.510000	848.0	24.5	82	<u>7.2</u>	<u>7.3</u>												
30	405.5559	1.550000	879.8	24.5	81	<u>7.2</u>	<u>7.2</u>												
31		1.330000	651.9	18.0	79	<u>7.2</u>	<u>7.3</u>												
TOT	1589.1362	8.970000	5072.1	142.3					208.9		2102.3		246.9		1908.0		373.9		4345.6
AVG	317.8272	1.121250	634.0	17.8	80			15.7	208.9	158.0	2102.3	9.8	123.5	75.5	954.0	28.1	373.9	326.6	4345.6

237

395

**Wastewater Summary Report for the month of November 2009**

Date	November Production Tons	2009 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1		0.510000	265.0	6.1	80	<del>7.3</del>	<del>7.3</del>												
2	327.5490	1.420000	699.6	17.5	80	<del>7.2</del>	<del>7.3</del>												
3	340.1325	1.460000	816.2	18.8	80	<del>7.2</del>	<del>7.2</del>	8.5	103.2	94	1141.3	10	121.4	71	862.0	44.7	542.7	189.2	2297.1
4	334.4850	1.650000	842.7	20.5	80	<del>7.2</del>	<del>7.3</del>					10.5	144.1	73.0	1001.7				
5	332.2225	1.360000	667.8	16.3	80	<del>7.3</del>	<del>7.3</del>												
6	303.1390	1.200000	699.6	16.5	80	<del>7.3</del>	<del>7.3</del>												
7		0.410000	121.9	4.2	80	<del>7.3</del>	<del>7.3</del>												
8		1.530000	74.2	2.1	80	<del>7.3</del>	<del>7.3</del>												
9		0.660000	376.3	9.3	80	<del>7.3</del>	<del>7.3</del>												
10	334.5575	1.420000	551.2	12.8	80	<del>7.3</del>	<del>7.3</del>												
11	327.2573	1.520000	757.9	18.6	80	<del>7.3</del>	<del>7.3</del>	30.5	385.5	164.0	2073.0	11.1	140.3	69.0	872.2	31.3	395.6	495.3	6260.8
12	347.0185	1.540000	832.1	19.9	80	<del>7.3</del>	<del>7.3</del>					9.5	121.7	60.0	768.4				
13	352.0008	1.450000	731.4	17.9	80	<del>7.3</del>	<del>7.3</del>												
14	333.4938	0.960000	768.5	17.9	80	<del>7.3</del>	<del>7.3</del>												
15		0.970000	471.7	11.8	80	<del>7.2</del>	<del>7.3</del>												
16	378.1560	1.520000	773.8	18.5	80	<del>7.2</del>	<del>7.2</del>												
17	371.7485	1.680000	890.4	19.6	80	<del>7.2</del>	<del>7.2</del>	9.5	132.7	80.7	1127.5	7.0	97.8	52.0	726.5	26.3	367.4	284.5	3974.7
18	395.6288	1.710000	874.5	20.3	80	<del>7.2</del>	<del>7.2</del>					8.2	116.6	41.0	583.0				
19	404.0925	1.750000	858.6	19.7	80	<del>7.2</del>	<del>7.2</del>												
20	401.2053	1.800000	853.3	19.7	80	<del>7.2</del>	<del>7.2</del>												
21	384.2485	1.410000	694.3	16.4	80	<del>7.2</del>	<del>7.2</del>												
22		0.940000	408.1	10.9	80	<del>7.2</del>	<del>7.2</del>												
23	385.7370	1.650000	795.0	18.6	80	<del>7.1</del>	<del>7.2</del>												
24	417.7798	1.910000	895.7	20.2	80	<del>7.2</del>	<del>7.2</del>	6.4	101.7	86.0	1366.0	9.1	144.5	52.0	825.9	20.4	324.0		
25	392.3835	1.780000	863.9	20.2	80	<del>7.2</del>	<del>7.2</del>					8.1	119.9	32.0	473.7			221.3	3275.8
26	378.9825	1.890000	837.4	20.3	80	<del>7.1</del>	<del>7.2</del>												
27	452.1564	1.950000	752.6	18.5	80	<del>7.2</del>	<del>7.2</del>												
28		0.320000	217.3	4.7	80	<del>7.2</del>	<del>7.2</del>												
29		0.190000	90.1	2.9	82	<del>7.0</del>	7.0												
30	409.4895	1.170000	625.4	15.2	80	<del>7.2</del>	<del>7.2</del>												
31																			
TOT	8103.4642	39.730000	19106.5	455.9					723.1		5707.8		1006.3		6113.4		1629.8		15808.4
AVG	368.3393	1.324333	659.5	17.6	82			13.7	180.8	106.2	1427.0	9.2	125.8	56.3	764.2	30.7	407.5	297.6	3952.1

259

425

**Wastewater Summary Report for the month of December 2009**

Date	December Production	2009 Flow	Alum	Poly	Max Temp	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Tons	mgd	#/day	#/day	F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	mg/L	Total mg/l
1	387.7270	1.470000	810.9	20.2	80	<del>7.0</del>	<del>7.9</del>	23.9	292.2	134.0	1638.1	13.4	163.8	68.0	831.3	28.0	342.3	450.6	5508.4
2	435.7415	1.520000	885.1	21.3	80	<del>7.0</del>	<del>7.9</del>					11.8	149.2	80.0	1011.2				
3	428.1630	1.570000	816.2	18.6	80	<del>7.2</del>	<del>7.3</del>												
4	447.1175	1.540000	837.4	19.6	80	<del>7.2</del>	<del>7.2</del>												
5	407.0210	1.200000	598.9	14.8	80	<del>7.2</del>	<del>7.3</del>												
6		0.710000	365.7	9.9	80	<del>7.2</del>	<del>7.2</del>												
7	450.9918	1.340000	673.1	15.8	80	<del>7.2</del>	<del>7.2</del>												
8	431.0994	1.390000	826.8	19.0	80	<del>7.2</del>	<del>7.2</del>	56.3	650.8	159.3	1841.4	10.8	124.8	91.0	1051.9	31.6	365.3	372.9	4310.4
9	456.9922	1.560000	853.3	20.0	80	<del>7.0</del>	<del>7.2</del>					12.5	162.2	77.0	998.9				
10	436.6987	1.300000	805.6	20.0	80	<del>7.2</del>	<del>7.2</del>												
11	433.9345	1.520000	800.3	18.2	80	<del>7.2</del>	<del>7.2</del>												
12	413.2396	1.320000	747.3	17.3	80	<del>7.0</del>	<del>7.2</del>												
13		0.900000	556.5	11.8	80	<del>7.2</del>	<del>7.2</del>												
14	404.7645	1.490000	731.4	16.5	80	<del>7.2</del>	<del>7.2</del>												
15	411.6938	1.530000	678.4	16.1	80	<del>7.2</del>	<del>7.2</del>												
16	419.6223	1.620000	837.4	21.0	80	<del>7.2</del>	<del>7.2</del>	13.0	165.4	102.7	1383.6	13.1	176.5	57.0	767.9	40.8	549.7	410.8	5534.3
17	420.8703	1.670000	863.9	20.6	82	<del>7.2</del>	<del>7.2</del>					9.1	126.4	66.0	916.6				
18	403.5648	1.640000	853.3	18.0	80	<del>7.2</del>	<del>7.2</del>												
19	316.2025	1.130000	577.7	14.1	80	<del>7.2</del>	<del>7.2</del>												
20		0.180000	127.2	3.4	80	<del>7.2</del>	<del>7.2</del>												
21		0.110000	100.7	2.4	83	<del>7.2</del>	<del>7.2</del>												
22		0.140000	84.8	2.5	80	<del>7.0</del>	<del>7.2</del>												
23		0.070000	63.6	2.0	81	<del>7.0</del>	<del>7.2</del>												
24		0.050000	53.0	1.4	80	<del>7.0</del>	7.0												
25		0.060000	37.1	1.0	80	<del>7.0</del>	7.0												
26		0.170000	116.6	3.4	81	<del>7.0</del>	7.0												
27		0.080000	90.1	3.0	85	<del>7.0</del>	7.0												
28		0.190000	100.7	2.8	75	<del>7.0</del>	7.0												
29		0.060000	47.7	1.8	77	<del>7.0</del>	7.0												
30		0.120000	63.6	1.8	80	<del>7.0</del>	7.0												
31		0.070000	58.3	1.7	88	<del>7.0</del>	7.0												
TOT	7105.4444	27.720000	15062.6	360.0					1108.4		4863.1		902.9		5577.8		1257.3		15353.1
AVG	417.9673	0.894194	485.9	15.6	84			31.1	369.5	132	1621	11.8	150.5	73.2	929.6	33.5	419.1	411.4	5117.7

276

**Wastewater Summary Report for the month of January 2010**

Date	January Production Tons	2010 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1																			
2		0.040000	84.8	2.5	80	<del>7.2</del>	<del>7.2</del>												
3		0.560000	259.7	8.2	80	<del>7.0</del>	<del>7.0</del>												
4	231.1100	1.400000	779.1	19.5	82	<del>7.2</del>	<del>7.3</del>												
5	312.6006	1.480000	869.2	21.7	82	<del>7.0</del>	<del>7.2</del>	22.0	270.8	106.0	1304.6	8.4	103.4	53.0	652.3	25.5	313.8	341.6	4204.3
6	368.9008	1.670000	869.2	19.6	80	<del>7.2</del>	<del>7.2</del>					6.6	91.7	44.0	611.1				
7	393.4211	1.570000	821.5	18.3	80	<del>7.2</del>	<del>7.2</del>												
8	423.0471	1.350000	620.1	14.0	80	<del>7.2</del>	<del>7.2</del>												
9		0.470000	238.5	4.8	80	<del>7.2</del>	<del>7.2</del>												
10		0.670000	270.3	6.2	80	<del>7.2</del>	<del>7.2</del>												
11	339.6506	1.350000	609.5	13.0	80	<del>7.2</del>	<del>7.2</del>												
12	365.3694	1.520000	901.0	21.0	80	<del>7.2</del>	<del>7.2</del>	36.2	457.6	71.3	901.3	7.8	98.6	45.0	568.8	26.5	335.0		
13	414.1822	1.600000	880.0	20.0	80	<del>7.2</del>	<del>7.2</del>					5.9	78.5	76.0	1011.2			268.8	3576.5
14	402.8979	1.660000	810.9	20.0	80	<del>7.2</del>	<del>7.2</del>												
15	387.4726	1.260000	614.8	16.1	80	<del>7.2</del>	<del>7.2</del>												
16		0.500000	302.1	6.6	82	<del>7.0</del>	<del>7.2</del>												
17		0.530000	249.1	6.6	80	<del>7.1</del>	<del>7.2</del>												
18	372.4821	1.340000	694.3	18.2	80	<del>7.0</del>	<del>7.2</del>												
19	369.8802	1.520000	689.0	17.1	80	<del>7.0</del>	7.1												
20	416.9082	1.770000	848.0	22.0	82	<del>7.0</del>	7.1	7.2	106.0	37.3	549.0	9.2	135.4	48.0	706.5	26.6	391.5	331.8	4883.9
21	390.5072	1.750000	853.3	22.1	82	<del>7.0</del>	7.1					7.9	115.0	39.0	567.6				
22	423.0478	1.720000	757.9	19.7	81	<del>7.1</del>	7.1												
23	419.2798	1.220000	593.6	15.5	81	<del>7.0</del>	<del>7.2</del>												
24		1.310000	598.9	16.1	80	<del>7.0</del>	<del>7.2</del>												
25	430.5605	1.570000	789.7	20.7	80	<del>7.0</del>	<del>7.2</del>												
26	434.2409	1.630000	837.4	22.1	80	<del>7.0</del>	<del>7.2</del>	6.6	89.5	116.0	1572.4	8.1	109.8	45.0	610.0	25.5	345.7	308.8	4185.8
27	451.5647	1.490000	858.6	21.7	80	<del>7.0</del>	7.1					5.6	69.4	73.0	904.5				
28	461.6088	1.520000	863.9	22.0	80	<del>7.1</del>	7.1												
29	449.7225	1.600000	773.8	20.9	80	<del>7.1</del>	7.1												
30	445.5043	1.220000	392.2	11.3	80	<del>7.0</del>	<del>7.2</del>												
31		1.030000	429.3	8.9	80	<del>7.1</del>	7.1												
<b>TOT</b>	8703.9593	38.320000	19159.7	476.4															
<b>AVG</b>	395.6345	1.236129	618.1	15.4	81			18.0	923.9	82.7	4327.3	7.4	801.8	52.9	704.0	26.0	1386.0	312.8	16850.5

297

458



**Wastewater Summary Report for the month of February 2010**

Date	February Production Tons	2010 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1	460.9104	1.470000	731.4	18.8	81	<del>7.0</del>	7.1												
2	455.5737	1.460000	789.7	18.9	81	<del>7.0</del>	<del>7.2</del>	6.7	81.3	86.7	1052.7	6.8	82.6	47.0	570.6	25.3	307.2	388.2	4713.3
3	447.2983	1.630000	869.2	21.7	80	<del>7.0</del>	7.1					8.1	109.8	58.0	786.2				
4	465.8208	1.610000	710.2	20.3	80	<del>7.0</del>	7.1												
5	429.0447	1.200000	561.8	13.8	81	<del>7.0</del>	7.1												
6		0.430000	127.2	3.5	80	<del>7.1</del>	7.1												
7		0.740000	286.2	6.2	80	<del>7.1</del>	<del>7.2</del>												
8	496.9449	1.470000	752.6	20.2	80	<del>7.0</del>	7.1												
9	494.5112	1.780000	842.7	21.7	81	<del>7.0</del>	7.1	15.3	226.5	120.0	1776.3	6.6	97.7	39.0	577.3	18.7	276.8		
10	471.7360	1.750000	821.5	22.4	80	<del>7.0</del>	7.1					6.2	90.2	71.0	1033.3			437.2	6362.6
11	473.5027	1.680000	689.0	19.5	80	<del>7.0</del>	7.1												
12		0.200000	132.5	3.7	80	<del>7.1</del>	<del>7.2</del>												
13																			
14		0.070000	63.6	2.1	80	<del>7.0</del>	7.0												
15		0.440000	291.5	6.6	80	<del>7.1</del>	<del>7.2</del>												
16	466.7013	1.650000	848.0	21.2	80	<del>7.0</del>	<del>7.2</del>												
17	447.6573	1.560000	858.6	21.4	80	<del>7.0</del>	7.1	12.6	163.5	52.7	683.7	8.8	114.2	60.0	778.4	16.0	207.6		
18	434.9976	1.740000	816.2	22.3	80	<del>7.1</del>	7.1					7.6	110.0	55.0	795.8			412.7	5971.7
19	398.0801	1.790000	752.6	18.9	80	<del>7.1</del>	7.1												
20	386.8915	1.370000	583.0	15.8	80	<del>7.1</del>	7.1												
21		0.950000	498.2	9.2	80	<del>7.1</del>	7.1												
22	432.9476	1.700000	651.9	16.2	80	<del>7.0</del>	7.1												
23	405.9675	1.710000	651.9	15.8	81	<del>7.0</del>	7.1												
24	386.2776	1.960000	863.9	18.6	80	<del>7.0</del>	7.1	26.1	425.4	69.3	1129.5	6.0	97.8	59.0	961.7	23.9	389.6		
25	409.3780	1.960000	821.5	19.9	80	<del>7.0</del>	7.1					8.9	145.1	62.0	1010.6			428.8	6989.2
26	411.1100	1.570000	551.2	14.5	80	<del>7.0</del>	7.1												
27		0.130000	106.0	2.5	80	<del>7.1</del>	7.1												
28		0.990000	349.8	8.9	80	<del>7.1</del>	7.1												
TOT	8375.3512	35.010000	16021.8	404.6					896.7		4642.2		847.4		6513.9		1181.2		24036.8
AVG	440.8080	1.296666	593.4	15.0	81			15.2	224.2	82.2	1160.6	7.4	105.9	56.4	814.2	21.0	295.3	416.7	6009.2

317

513

Wastewater Summary Report for the month of March 2010

Date	March	2010	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production TONS	Flow mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total mg/l
1	450.9147	1.570000	821.5	19.5	80	<del>7.0</del>	7.1												
2	399.0047	1.850000	874.5	22.1	80	<del>7.0</del>	7.1	16.6	255.4	101.3	1558.5	8.9	136.9	53.0	815.4	20.2	310.8	475.1	7309.2
3	438.5400	1.840000	863.9	22.1	80	<del>7.0</del>	7.1					10.7	163.7	66.0	1009.9				
4	419.5509	1.740000	816.2	19.3	80	<del>7.0</del>	7.1												
5	460.0632	1.590000	514.1	12.0	80	<del>7.0</del>	7.1												
6		0.370000	185.5	5.8	80	<del>7.0</del>	7.0												
7		0.550000	333.9	7.9	80	<del>7.1</del>	7.1												
8	482.8866	0.780000	556.5	14.0	80	<del>7.1</del>	7.1												
9	468.7920	1.720000	768.5	18.0	80	<del>7.0</del>	7.1												
10	467.8012	1.670000	853.3	22.0	82	<del>7.0</del>	7.1	27.1	376.4	71.3	990.2	10.6	147.2	42.0	583.3	17.8	247.2	225.8	3135.8
11	440.8793	1.660000	763.2	21.3	80	<del>7.0</del>	7.1					8.9	122.9	62.0	855.9				
12	447.7115	1.430000	455.8	12.1	81	<del>7.0</del>	7.1												
13		0.070000	74.2	1.7	80	<del>7.1</del>	7.1												
14		0.500000	265.0	6.2	81	<del>7.1</del>	7.1												
15	380.7950	1.580000	662.5	17.8	81	<del>7.0</del>	7.1												
16	424.4812	1.760000	826.8	21.7	81	<del>7.0</del>	7.1												
17	418.1817	1.570000	879.8	22.0	81	<del>7.0</del>	7.1	20.2	263.7	109.3	1427.0	11.3	147.5	60.0	783.4	20.0	261.1	457.3	5970.6
18	436.7485	1.700000	890.4	21.6	80	<del>7.0</del>	7.1					12.7	179.5	41.0	579.6				
19	429.1154	1.390000	657.2	15.4	81	<del>7.0</del>	7.1												
20		0.350000	164.3	5.5	80	<del>7.1</del>	7.1												
21		0.640000	280.9	7.3	80	<del>7.1</del>	7.1												
22	403.0760	1.620000	694.3	17.6	80	<del>7.0</del>	7.1												
23	376.6841	1.470000	816.2	20.9	80	<del>7.0</del>	7.1	20.5	250.6	76.0	929.1	11.2	136.9	50.0	611.2	19.5	238.4	453.6	5545.0
24	387.9880	1.680000	842.7	21.6	81	<del>7.0</del>	7.1					9.4	131.3	56.0	782.4				
25	395.3070	1.720000	683.7	17.6	80	<del>7.0</del>	7.1												
26	396.8830	1.310000	593.6	14.4	81	<del>7.0</del>	7.1												
27		0.400000	143.1	3.8	80	<del>7.1</del>	<del>7.2</del>												
28		0.300000	106.0	3.0	80	<del>7.2</del>	<del>7.2</del>												
29		0.880000	365.7	8.9	80	<del>7.1</del>	7.1												
30	381.6180	1.340000	689.0	17.9	80	<del>7.0</del>	7.1												
31	335.0240	1.460000	694.3	17.8	80	<del>7.0</del>	7.1												
TOT	9242.0460	38.510000	18136.6	458.8					1146.1		4904.8		1166.0		6021.1		1057.5		21960.6
AVG	420.0930	1.242258	585.1	14.8	81			21.1	286.5	89.5	1226.2	10.5	145.7	53.8	752.6	19.4	264.4	403.0	5490.2

339 544

**Wastewater Summary Report for the month of April 2010**

Date	April Production Tons	2010 Flow mgd	Alum #/day	Poly #/day	Max Temp F	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
						Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/l	Total #/day
1	354.4961	1.540000	869.2	21.0	82	<del>7.0</del>	7.1	15.4	197.2	92.7	1187.2	10.9	139.6	76.0	973.3	38.1	487.9		
2	350.8497	1.400000	805.6	18.8	80	<del>7.1</del>	7.1					8.9	103.6	50.0	582.1			335.4	3904.9
3	357.1695	1.180000	508.8	12.7	80	<del>7.1</del>	7.1												
4		0.950000	371.0	8.7	81	<del>7.1</del>	7.1												
5	476.0564	1.540000	726.1	19.0	80	<del>7.0</del>	7.1												
6	433.9224	1.590000	848.0	22.1	81	<del>7.0</del>	7.1	23.0	304.1	85.3	1127.9	8.8	116.4	62.0	819.8	43.9	580.5		
7	419.8884	1.610000	810.9	21.0	80	<del>7.0</del>	7.1					12.0	160.7	78.0	1044.3			238.8	3197.2
8	385.5309	1.560000	699.6	18.2	80	<del>7.0</del>	7.1												
9	330.3650	1.400000	540.6	14.8	81	<del>7.0</del>	7.1												
10	322.0353	1.250000	424.0	11.7	80	<del>7.0</del>	7.1												
11		0.670000	254.4	6.2	80	<del>7.1</del>	7.1												
12	337.5524	1.540000	784.4	17.6	80	<del>7.0</del>	7.1												
13	359.2864	1.560000	789.7	21.0	81	<del>7.0</del>	7.1	11.9	154.4	133.3	1729.3	12.7	164.8	82.0	1063.8	12.3	159.6	326.9	4240.9
14	351.6273	1.510000	848.0	22.6	80	<del>7.0</del>	7.1					8.6	108.0	70.0	879.0				
15	343.4475	1.540000	657.2	17.8	80	<del>7.0</del>	7.1												
16	328.1090	1.330000	593.6	14.5	80	<del>7.0</del>	7.1												
17	308.8418	1.300000	657.2	16.1	80	<del>7.0</del>	7.1												
18		0.840000	249.1	7.5	80	<del>7.1</del>	7.1												
19	396.2825	1.620000	752.6	20.4	80	<del>7.0</del>	7.1												
20	359.2675	1.650000	832.1	21.6	81	<del>7.0</del>	7.1	13.3	182.5	77.3	1060.7	8.1	111.1	55.0	754.7	26.3	360.9		
21	318.7665	1.560000	810.9	21.0	80	<del>7.0</del>	7.1					10.6	137.5	58.0	752.4			248.4	3222.5
22	385.8512	1.930000	805.6	18.3	80	<del>7.0</del>	7.1												
23	361.4145	1.590000	620.1	15.8	80	<del>7.0</del>	7.1												
24	322.0020	1.180000	466.4	13.7	80	<del>7.0</del>	7.1												
25		0.990000	413.4	9.4	80	<del>7.1</del>	7.1												
26	382.3051	1.610000	726.1	18.9	80	<del>7.0</del>	7.1												
27	370.8405	1.650000	821.5	21.2	81	<del>7.0</del>	7.0	10.6	145.4	103.3	1417.4	10.0	137.2	63.0	864.4	26.7	366.4	331.1	4543.2
28	371.9428	1.830000	858.6	22.3	81	<del>7.0</del>	7.0					11.3	172.0	72.0	1095.7				
29	384.7635	1.900000	800.3	20.6	80	<del>7.0</del>	7.0												
30	368.5350	1.970000	657.2	16.7	80	<del>7.0</del>	7.1												
TOT	9481.1492	43.790000	20002.2	511.2					983.6		6522.5		1350.9		8829.5		1955.3		19108.7
AVG	364.6595	1.459667	666.7	17.0	81			14.8	196.7	98.4	1304.5	10.2	135.1	66.6	883.0	29.5	391.1	296.1	3821.7

365

**Wastewater Summary Report for the month of May 2010**

Date	May	2010	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	mg/L	#/day
1		1.410000	344.5	8.5	80	<del>7.0</del>	7.1												
2		0.800000	222.6	8.5	81	<del>7.0</del>	7.1												
3	383.7344	1.590000	662.5	15.9	80	<del>7.0</del>	<del>7.2</del>												
4	378.1647	1.620000	816.2	22.4	80	<del>7.0</del>	<del>7.2</del>	22.0	296.4	68.0	916.1	9.2	123.9	60.0	808.3	37.8	509.2		
5	399.1497	1.740000	842.7	22.1	80	<del>7.0</del>	<del>7.2</del>					11.0	159.2	77.0	1114.2			295.8	4280.2
6	391.6534	1.680000	826.8	20.4	80	<del>7.2</del>	<del>7.2</del>												
7	336.0446	1.160000	445.2	12.7	80	<del>7.0</del>	<del>7.2</del>												
8		0.840000	243.8	5.6	80	<del>7.1</del>	<del>7.2</del>												
9		0.070000	37.1	1.8	80	<del>7.1</del>	7.1												
10	371.8900	1.700000	588.3	15.5	80	<del>7.0</del>	<del>7.2</del>												
11	367.8490	1.770000	869.2	22.3	81	<del>7.0</del>	<del>7.2</del>	17.5	257.6	88.0	1295.3	10.6	156.0	67.0	986.2	26.7	393.0	339.5	4997.2
12	397.4740	1.760000	821.5	22.0	80	<del>7.0</del>	<del>7.2</del>					8.9	130.3	54.0	790.4				
13	399.6200	1.470000	540.6	14.0	80	<del>7.0</del>	<del>7.2</del>												
14		0.370000	143.1	4.2	80	<del>7.0</del>	7.0												
15		0.130000	95.4	2.3	80	<del>7.0</del>	<del>7.2</del>												
16																			
17		0.070000	37.1	1.4	80	<del>7.2</del>	<del>7.2</del>												
18		0.750000	434.6	11.4	80	<del>7.1</del>	<del>7.2</del>												
19	389.1045	1.720000	742.0	20.0	80	<del>7.0</del>	<del>7.2</del>												
20	408.6655	1.730000	821.5	20.3	82	<del>7.0</del>	<del>7.2</del>	24.5	352.5	63.3	910.7	10.8	155.4	62.0	892.0	29.8	428.7	364.7	5246.8
21	430.2365	1.780000	773.8	19.7	80	<del>7.0</del>	<del>7.2</del>					9.0	133.2	78.0	1154.6				
22		0.460000	259.7	6.6	80	<del>7.2</del>	<del>7.2</del>												
23		0.130000	37.1	0.7	80	<del>7.2</del>	<del>7.2</del>												
24		1.060000	344.5	8.6	80	<del>7.1</del>	<del>7.2</del>												
25	502.9149	1.780000	747.3	19.7	81	<del>7.0</del>	<del>7.2</del>												
26	518.9563	1.990000	800.3	21.5	81	<del>7.0</del>	<del>7.2</del>	27.7	458.4	68.0	1125.3	8.4	139.0	74.0	1224.6	29.1	481.6		
27	530.9311	1.850000	810.9	21.0	82	<del>7.0</del>	<del>7.2</del>					10.0	153.8	63.0	969.2			247.5	3807.7
28	502.8528	1.900000	810.9	19.8	80	<del>7.0</del>	<del>7.2</del>												
29	481.4585	1.650000	567.1	14.1	81	<del>7.0</del>	7.1												
30		0.540000	280.9	6.2	81	<del>7.1</del>	<del>7.2</del>												
31		0.400000	212.0	5.4	80	<del>7.2</del>	<del>7.2</del>												
TOT	7190.6999	35.920000	15179.2	394.6					1364.9		4247.4		1150.8		7939.5		1812.5		18331.9
AVG	422.9823	1.158710	489.7	12.7	81			22.9	341.2	71.8	1061.9	9.7	143.9	66.9	992.4	30.9	453.1	311.9	4583.0

382 624

Wastewater Summary Report for the month of June 2010

Date	June	2010	Alum	Poly	Max	pH Limits		Oil & Grease		TSS		TP		TN		Total Ammonia		BOD5	
	Production Tons	Flow mgd	#/day	#/day	Temp F	Lo	Hi	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/l	Total #/day	Eff mg/L	#/day	Eff mg/L	Total #/day
1	442.7154	1.530000	731.4	18.1	81	<del>7.0</del>	<del>7.2</del>												
2	435.0501	1.800000	853.3	20.9	80	<del>7.0</del>	<del>7.2</del>	22.6	338.3	103.3	1546.3	10.2	152.7	80.0	1197.5	32.3	483.5		
3	468.8013	1.750000	810.9	20.7	80	<del>7.0</del>	7.1					10.1	147.0	58.0	844.1			248.1	3610.6
4	476.7616	1.830000	736.7	19.6	80	<del>7.0</del>	7.1												
5	552.7858	1.470000	646.6	17.5	80	<del>7.0</del>	7.1												
6		1.190000	413.4	9.9	80	<del>7.0</del>	7.1												
7	463.6370	1.770000	678.4	17.1	80	<del>7.0</del>	7.1												
8	452.1186	1.140000	805.6	22.1	80	<del>7.0</del>	7.1	17.3	164.0	82.0	777.4	8.0	75.8	72.0	682.6	26.8	254.1	262.8	2491.4
9	478.3430	1.940000	821.5	21.7	80	<del>7.0</del>	7.1					9.5	153.3	56.0	903.5				
10	469.3294	1.930000	795.0	19.9	80	<del>7.0</del>	7.1												
11	455.3449	1.580000	720.8	20.3	80	<del>7.0</del>	7.1												
12	468.8296	1.640000	683.7	17.4	80	<del>7.0</del>	7.1												
13		1.030000	344.5	8.2	80	<del>7.0</del>	7.0												
14	432.5620	1.680000	604.2	15.5	80	<del>7.0</del>	7.0												
15	480.7100	1.790000	757.9	20.0	81	<del>7.0</del>	7.0	13.2	196.5	64.7	963.1	11.2	166.7	73.0	1086.7	31.0	461.5	280.7	4178.4
16	475.5388	1.890000	832.1	21.0	80	<del>7.0</del>	7.0					7.9	124.2	79.0	1241.7				
17	462.9189	1.860000	805.6	20.9	80	<del>7.0</del>	7.1												
18	460.9004	1.800000	620.1	16.9	80	<del>7.0</del>	7.0												
19	438.3182	1.460000	503.5	13.7	80	<del>7.0</del>	7.0												
20		1.040000	217.3	6.5	80	<del>7.0</del>	7.0												
21	473.8317	1.360000	731.4	18.8	80	<del>7.0</del>	7.1												
22	515.4923	1.810000	763.2	21.6	80	<del>7.0</del>	7.0	13.6	204.7	69.3	1043.1	9.1	137.0	61.0	918.2	36.9	555.4	274.8	4136.3
23	530.3242	1.160000	795.0	20.5	80	<del>7.0</del>	7.0					10.1	97.4	74.0	713.8				
24	485.4492	1.980000	694.3	19.5	80	<del>7.0</del>	7.0												
25	466.9938	1.950000	657.2	16.9	80	<del>7.0</del>	7.0												
26	492.1571	1.440000	519.4	11.9	80	<del>7.0</del>	7.0												
27		0.880000	238.5	6.3	80	<del>7.0</del>	7.0												
28	493.1105	1.480000	535.3	13.8	80	<del>7.0</del>	7.0												
29	497.6003	1.840000	816.2	21.0	80	<del>7.0</del>	7.0	16.4	250.9	56.0	856.9	9.5	145.4	55.0	841.6	29.9	457.5	370.5	5669.2
30	483.9058	1.830000	795.0	22.4	80	<del>7.0</del>	7.0					8.9	135.4	59.0	897.9				
TOT	12353.5299	47.850000	19928.0	520.6					1154.4		5186.7		1334.9		9327.4		2211.9		20085.9
AVG	475.1358	1.595000	664.3	17.4	81			16.6	230.9	75.1	1037.3	9.5	133.5	66.7	932.7	31.4	442.4	287.4	4017.2

408

634

84

**APPENDIX B - REPORT FORM 2**  
**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From July 2010 to September 2010**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
1-Jul-10	38814	22795	34768	4976.3	720	4750	2925	6.56
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
0/8/10	40701	21274	64500	4743	850	4400	4700	6.60
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
1-Sep-10							4950	
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

StarKist

Ocean Disposal  
2008-2010

**APPENDIX B - REPORT FORM 2**  
**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

Reporting Period: From **October 2010** to **December 2010**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
0/10/10								
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
0/11/10								
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
0/12/10								
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.00	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.02	
0.93 to 1.05	



Density (g/mL)
1.01
0.93 to 1.05

Density (g/mL)
1.01
0.93 to 1.05

Density (g/mL)
1.01
0.93 to 1.05

Density (g/mL)
1.00
0.93 to 1.05

Density (g/mL)
1.01
0.93 to 1.05

Density (g/mL)
0.93 to 1.05

Density (g/mL)
0.93 to 1.05

Density (g/mL)
0.93 to 1.05

Density (g/mL)
0.93 to 1.05

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : January 2010**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Jan-10	0	0	0	0	0
2-Jan-10	250	1000	1250	2500	0
3-Jan-10	1000	4000	5000	10000	0
4-Jan-10	6250	25000	31250	62500	0
5-Jan-10	9500	38000	47500	95000	145000
6-Jan-10	7000	28000	35000	70000	0
7-Jan-10	8250	33000	41250	82500	180000
8-Jan-10	9000	36000	45000	90000	0
9-Jan-10	2750	11000	13750	27500	172500
10-Jan-10	1750	7000	8750	17500	0
11-Jan-10	6250	25000	31250	62500	0
12-Jan-10	6250	25000	31250	62500	130000
13-Jan-10	8000	32000	40000	80000	0
14-Jan-10	7000	28000	35000	70000	187500
15-Jan-10	8750	35000	43750	87500	0
16-Jan-10	3500	14000	17500	35000	160000
17-Jan-10	1000	4000	5000	10000	0
18-Jan-10	5500	22000	27500	55000	0
19-Jan-10	8250	33000	41250	82500	120000
20-Jan-10	9250	37000	46250	92500	0
21-Jan-10	12050	48200	60250	120500	162500
22-Jan-10	8250	33000	41250	82500	0
23-Jan-10	9500	38000	47500	95000	175000
24-Jan-10	12500	50000	62500	125000	0
25-Jan-10	7750	31000	38750	77500	125000
26-Jan-10	7000	28000	35000	70000	0
27-Jan-10	8000	32000	40000	80000	160000
28-Jan-10	9500	38000	47500	95000	0
29-Jan-10	8000	32000	40000	80000	175000
30-Jan-10	7250	29000	36250	72500	0
31-Jan-10	5500	22000	27500	55000	170000
<b>Monthly Totals</b>	<b>204800</b>	<b>819200</b>	<b>1024000</b>	<b>2048000</b>	<b>2062500</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate:     19159.7 Pounds/Month

Coagulant polymer: 476.4 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : February 2010**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Feb-10	4750	19000	23750	47500	0
2-Feb-10	8750	35000	43750	87500	147500
3-Feb-10	8500	34000	42500	85000	0
4-Feb-10	6750	27000	33750	67500	167500
5-Feb-10	8750	35000	43750	87500	0
6-Feb-10	4500	18000	22500	45000	165000
7-Feb-10	1750	7000	8750	17500	0
8-Feb-10	5250	21000	26250	52500	0
9-Feb-10	8250	33000	41250	82500	147500
10-Feb-10	10750	43000	53750	107500	0
11-Feb-10	8250	33000	41250	82500	175000
12-Feb-10	3500	14000	17500	35000	112500
13-Feb-10	0	0	0	0	0
14-Feb-10	250	1000	1250	2500	0
15-Feb-10	2000	8000	10000	20000	0
16-Feb-10	6500	26000	32500	65000	0
17-Feb-10	6750	27000	33750	67500	162500
18-Feb-10	11250	45000	56250	112500	0
19-Feb-10	6750	27000	33750	67500	185000
20-Feb-10	8500	34000	42500	85000	0
21-Feb-10	5750	23000	28750	57500	177500
22-Feb-10	6000	24000	30000	60000	0
23-Feb-10	13250	53000	66250	132500	140000
24-Feb-10	10125	40500	50625	101250	0
25-Feb-10	6750	27000	33750	67500	163750
26-Feb-10	9500	38000	47500	95000	0
27-Feb-10	1500	6000	7500	15000	175000
28-Feb-10	2500	10000	12500	25000	0
<b>Monthly Totals</b>	<b>177125</b>	<b>708500</b>	<b>885625</b>	<b>1771250</b>	<b>1918750</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 16021.9 Pounds/Month  
Coagulant Polymer : 404.6 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : March 2010**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Mar-10	6750	27000	33750	67500	0
2-Mar-10	6750	27000	33750	67500	172500
3-Mar-10	9500	38000	47500	95000	0
4-Mar-10	7750	31000	38750	77500	172500
5-Mar-10	10500	42000	52500	105000	0
6-Mar-10	4750	19000	23750	47500	170000
7-Mar-10	1750	7000	8750	17500	0
8-Mar-10	3875	15500	19375	38750	0
9-Mar-10	9000	36000	45000	90000	181250
10-Mar-10	10750	43000	53750	107500	0
11-Mar-10	11250	45000	56250	112500	192500
12-Mar-10	8500	34000	42500	85000	0
13-Mar-10	7000	28000	35000	70000	187500
14-Mar-10	1750	7000	8750	17500	135000
15-Mar-10	4000	16000	20000	40000	0
16-Mar-10	11750	47000	58750	117500	0
17-Mar-10	10000	40000	50000	100000	170000
18-Mar-10	9000	36000	45000	90000	0
19-Mar-10	8875	35500	44375	88750	180000
20-Mar-10	4500	18000	22500	45000	0
21-Mar-10	1500	6000	7500	15000	183750
22-Mar-10	3850	15400	19250	38500	0
23-Mar-10	11000	44000	55000	110000	185000
24-Mar-10	10125	40500	50625	101250	0
25-Mar-10	7375	29500	36875	73750	0
26-Mar-10	6125	24500	30625	61250	170000
27-Mar-10	6000	24000	30000	60000	0
28-Mar-10	500	2000	2500	5000	168750
29-Mar-10	2000	8000	10000	20000	0
30-Mar-10	4125	16500	20625	41250	0
31-Mar-10	10250	41000	51250	102500	0
<b>Monthly Totals</b>	<b>210850</b>	<b>843400</b>	<b>1054250</b>	<b>2108500</b>	<b>2268750</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 18136.6 Pound/Month  
Coagulant Polymer : 458.8 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : April 2010**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Apr-10	9000	36000	45000	90000	0
2-Apr-10	6875	27500	34375	68750	0
3-Apr-10	12750	51000	63750	127500	162500
4-Apr-10	3000	12000	15000	30000	160000
5-Apr-10	7250	29000	36250	72500	0
6-Apr-10	7000	28000	35000	70000	0
7-Apr-10	10000	40000	50000	100000	165000
8-Apr-10	8250	33000	41250	82500	0
9-Apr-10	11750	47000	58750	117500	190000
10-Apr-10	8750	35000	43750	87500	177500
11-Apr-10	1750	7000	8750	17500	0
12-Apr-10	15000	60000	75000	150000	115000
13-Apr-10	7250	29000	36250	72500	0
14-Apr-10	11500	46000	57500	115000	175000
15-Apr-10	6125	24500	30625	61250	0
16-Apr-10	6500	26000	32500	65000	181250
17-Apr-10	9750	39000	48750	97500	0
18-Apr-10	3250	13000	16250	32500	190000
19-Apr-10	5000	20000	25000	50000	0
20-Apr-10	6000	24000	30000	60000	0
21-Apr-10	6500	26000	32500	65000	180000
22-Apr-10	8500	34000	42500	85000	0
23-Apr-10	9250	37000	46250	92500	182500
24-Apr-10	8500	34000	42500	85000	0
25-Apr-10	5000	20000	25000	50000	197500
26-Apr-10	4500	18000	22500	45000	0
27-Apr-10	10750	43000	53750	107500	0
28-Apr-10	6500	26000	32500	65000	190000
29-Apr-10	10125	40500	50625	101250	0
30-Apr-10	7850	31400	39250	78500	191250
<b>Monthly Totals</b>	<b>234225</b>	<b>936900</b>	<b>1171125</b>	<b>2342250</b>	<b>2457500</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 20002.2 Pounds/Month

Coagulant polymer: 511.2 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

Month : May 2010

0D 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-May-10	7250	29000	36250	72500	0
2-May-10	2750	11000	13750	27500	182500
3-May-10	5625	22500	28125	56250	0
4-May-10	7750	31000	38750	77500	0
5-May-10	5000	20000	25000	50000	167500
6-May-10	9625	38500	48125	96250	0
7-May-10	4500	18000	22500	45000	178750
8-May-10	2250	9000	11250	22500	0
9-May-10	250	1000	1250	2500	175000
10-May-10	3250	13000	16250	32500	0
11-May-10	11125	44500	55625	111250	0
12-May-10	10000	40000	50000	100000	173750
13-May-10	5500	22000	27500	55000	0
14-May-10	3500	14000	17500	35000	175000
15-May-10	1750	7000	8750	17500	0
16-May-10	0	0	0	0	0
17-May-10	250	1000	1250	2500	0
18-May-10	2250	9000	11250	22500	0
19-May-10	6875	27500	34375	68750	0
20-May-10	7250	29000	36250	72500	163750
21-May-10	8250	33000	41250	82500	0
22-May-10	1750	7000	8750	17500	180000
23-May-10	750	3000	3750	7500	0
24-May-10	2500	10000	12500	25000	0
25-May-10	6750	27000	33750	67500	0
26-May-10	4375	17500	21875	43750	185750
27-May-10	14250	57000	71250	142500	0
28-May-10	13625	54500	68125	136250	177500
29-May-10	9450	37800	47250	94500	138750
30-May-10	4000	16000	20000	40000	0
31-May-10	4250	17000	21250	42500	0
<b>Monthly Totals</b>	166700	666800	833500	1667000	1898250

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:



Aluminum Sulfate : 15179.2 Pounds/Month  
Coagulant Polymer : 394.6 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

Month : June 2010

0D 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-Jun-10	8200	32800	41000	82000	150000
2-Jun-10	5250	21000	26250	52500	
3-Jun-10	9000	36000	45000	90000	180500
4-Jun-10	7000	28000	35000	70000	
5-Jun-10	6500	26000	32500	65000	187500
6-Jun-10	1500	6000	7500	15000	
7-Jun-10	6000	24000	30000	60000	
8-Jun-10	9500	38000	47500	95000	170000
9-Jun-10	8250	33000	41250	82500	
10-Jun-10	9650	38600	48250	96500	195000
11-Jun-10	7625	30500	38125	76250	
12-Jun-10	8450	33800	42250	84500	186250
13-Jun-10	3250	13000	16250	32500	
14-Jun-10	3875	15500	19375	38750	
15-Jun-10	10125	40500	50625	101250	176250
16-Jun-10	8375	33500	41875	83750	
17-Jun-10	6750	27000	33750	67500	175500
18-Jun-10	7750	31000	38750	77500	
19-Jun-10	8375	33500	41875	83750	190000
20-Jun-10	4000	16000	20000	40000	
21-Jun-10	3750	15000	18750	37500	177250
22-Jun-10	6625	26500	33125	66250	
23-Jun-10	9000	36000	45000	90000	
24-Jun-10	7000	28000	35000	70000	187500
25-Jun-10	8125	32500	40625	81250	
26-Jun-10	7250	29000	36250	72500	176200
27-Jun-10	4000	16000	20000	40000	
28-Jun-10	6750	27000	33750	67500	
29-Jun-10	7375	29500	36875	73750	175000
30-Jun-10	8125	32500	40625	81250	
<b>Monthly Totals</b>	207425	829700	1037125	2074250	2326950

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 19928 Pounds/Month  
Coagulant Polymer : 520.6 Pounds/Month

**APPENDIX B - REPORT FORM 2**

**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From January 2010 to March 2010**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
13-Jan-10	25074	13495	45402	5530	630	3900	2355	6.71
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
11-Feb-10	38038	25421	56194	5317.5	610	4000	3000	5.81
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
10-Mar-10	24197	11420	34429	5019	420	4200	1710	6.73
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

**APPENDIX B - REPORT FORM 2**  
**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

Reporting Period: From **April 2010** to **June 2010**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
21-Apr-10	41520	23827	39829	4406	725	4350	3430	6.69
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
7-May-10	48136	22687	44735	4508	655	4700	3330	6.70
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
9-Jun-10	47718	35367	39716	4048.8	665	4500	4085	6.51
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

# **APPENDIX B - REPORT FORM 1**

## **Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : April 2009**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-Apr-09	11625	46500	58125	116250	98750
2-Apr-09	10250	41000	51250	102500	101250
3-Apr-09	9500	38000	47500	95000	102500
4-Apr-09	2500	10000	12500	25000	115000
5-Apr-09	3250	13000	16250	32500	35000
6-Apr-09	9875	39500	49375	98750	0
7-Apr-09	11375	45500	56875	113750	113750
8-Apr-09	11750	47000	58750	117500	108750
9-Apr-09	11000	44000	55000	110000	102500
10-Apr-09	3000	12000	15000	30000	107500
11-Apr-09	750	3000	3750	7500	80000
12-Apr-09	1500	6000	7500	15000	0
13-Apr-09	9000	36000	45000	90000	0
14-Apr-09	9750	39000	48750	97500	107500
15-Apr-09	8500	34000	42500	85000	107500
16-Apr-09	2500	10000	12500	25000	85000
17-Apr-08	500	2000	2500	5000	25000
18-Apr-09	10000	40000	50000	100000	0
19-Apr-09	3000	12000	15000	30000	0
20-Apr-09	8875	35500	44375	88750	0
21-Apr-09	10375	41500	51875	103750	93750
22-Apr-09	10375	41500	51875	103750	93750
23-Apr-09	9875	39500	49375	98750	113750
24-Apr-09	9625	38500	48125	96250	93750
25-Apr-09	3000	12000	15000	30000	126250
26-Apr-09	2000	8000	10000	20000	50000
27-Apr-09	10875	43500	54375	108750	0
28-Apr-09	10250	41000	51250	102500	113750
29-Apr-09	8875	35500	44375	88750	105000
30-Apr-09	10500	42000	52500	105000	101250
<b>Monthly Totals</b>	<b>224250</b>	<b>897000</b>	<b>1121250</b>	<b>2242500</b>	<b>2181250</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 18809.7 Pounds/Month  
Coagulant polymer: 527.3 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : May 2009**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
1-May-09	11500	46000	57500	115000	102500
2-May-09	3000	12000	15000	30000	117500
3-May-09	3000	12000	15000	30000	37500
4-May-09	11750	47000	58750	117500	0
5-May-09	11000	44000	55000	110000	100000
6-May-09	11625	46500	58125	116250	118750
7-May-09	10000	40000	50000	100000	111250
8-May-09	10625	42500	53125	106250	110000
9-May-09	3500	14000	17500	35000	116250
10-May-09	2500	10000	12500	25000	85000
11-May-09	9500	38000	47500	95000	0
12-May-09	9000	36000	45000	90000	87500
13-May-09	10000	40000	50000	100000	90000
14-May-09	12625	50500	63125	126250	95000
15-May-09	12000	48000	60000	120000	106250
16-May-09	2500	10000	12500	25000	90000
17-May-09	4250	17000	21250	42500	125000
18-May-09	9250	37000	46250	92500	0
19-May-09	10000	40000	50000	100000	102500
20-May-09	10500	42000	52500	105000	105000
21-May-09	9750	39000	48750	97500	105000
22-May-09	10250	41000	51250	102500	102500
23-May-09	2500	10000	12500	25000	117500
24-May-09	1750	7000	8750	17500	40000
25-May-09	2000	8000	10000	20000	0
26-May-09	8500	34000	42500	85000	40000
27-May-09	8125	32500	40625	81250	85000
28-May-09	8875	35500	44375	88750	85000
29-May-09	10125	40500	50625	101250	91250
30-May-09	4750	19000	23750	47500	103750
31-May-09	2750	11000	13750	27500	0
<b>Monthly Totals</b>	<b>237500</b>	<b>950000</b>	<b>1187500</b>	<b>2375000</b>	<b>2470000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 19726.6 Pounds/Month  
Coagulant Polymer : 527.6 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

Month : June 2009

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-Jun-09	11875	47500	59375	118750	0
2-Jun-09	16250	65000	81250	162500	113750
3-Jun-09	14625	58500	73125	146250	90000
4-Jun-09	10000	40000	50000	100000	102500
5-Jun-09	9875	39500	49375	98750	102500
6-Jun-09	3750	15000	18750	37500	108750
7-Jun-09	3750	15000	18750	37500	70000
8-Jun-09	10000	40000	50000	100000	0
9-Jun-09	10250	41000	51250	102500	105000
10-Jun-09	10250	41000	51250	102500	102500
11-Jun-09	11250	45000	56250	112500	112500
12-Jun-09	11125	44500	55625	111250	115000
13-Jun-09	3750	15000	18750	37500	126250
14-Jun-09	4750	19000	23750	47500	60000
15-Jun-09	9250	37000	46250	92500	0
16-Jun-09	10250	41000	51250	102500	107500
17-Jun-09	10625	42500	53125	106250	107500
18-Jun-09	12250	49000	61250	122500	111250
19-Jun-09	11250	45000	56250	112500	117500
20-Jun-09	2000	8000	10000	20000	117500
21-Jun-09	2500	10000	12500	25000	45000
22-Jun-09	9875	39500	49375	98750	0
23-Jun-09	10750	43000	53750	107500	106250
24-Jun-09	10750	43000	53750	107500	107500
25-Jun-09	9375	37500	46875	93750	122500
26-Jun-09	9625	38500	48125	96250	108750
27-Jun-09	3000	12000	15000	30000	96250
28-Jun-09	1000	4000	5000	10000	30000
29-Jun-09	500	2000	2500	5000	0
30-Jun-09	750	3000	3750	7500	0
<b>Monthly Totals</b>	245250	981000	1226250	2452500	2386250

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 19541.1 Pounds/Month  
Coagulant Polymer : 542.6 Pounds/Month



**APPENDIX B - REPORT FORM 2**

**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From April 2009 to June 2009**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
22-Apr-09	50294	31820	30590	5869	705	4750	1830	6.8
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
13-May-09	31746	16338	41765	6923	565	4400	4120	6.7
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
10-Jun-09	49454	30962	48003	6383.8	790	4250	3580	6.7
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.03	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : January 2009

0D 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-Jan-09	0	0	0	0	0
2-Jan-09	0	0	0	0	0
3-Jan-09	2000	8000	10000	20000	130000
4-Jan-09	2000	8000	10000	20000	0
5-Jan-09	8875	35500	44375	88750	0
6-Jan-09	8000	32000	40000	80000	118750
7-Jan-09	10500	42000	52500	105000	70000
8-Jan-09	10500	42000	52500	105000	97500
9-Jan-09	10500	42000	52500	105000	95000
10-Jan-09	3500	14000	17500	35000	105000
11-Jan-09	500	2000	2500	5000	75000
12-Jan-09	3000	12000	15000	30000	0
13-Jan-09	9000	36000	45000	90000	35000
14-Jan-09	9625	38500	48125	96250	52500
15-Jan-09	11500	46000	57500	115000	96250
16-Jan-09	10875	43500	54375	108750	105000
17-Jan-08	2750	11000	13750	27500	106250
18-Jan-09	750	3000	3750	7500	97500
19-Jan-09	3000	12000	15000	30000	0
20-Jan-09	7500	30000	37500	75000	0
21-Jan-09	10250	41000	51250	102500	87500
22-Jan-09	11625	46500	58125	116250	102500
23-Jan-09	9000	36000	45000	90000	101250
24-Jan-09	4500	18000	22500	45000	112500
25-Jan-09	500	2000	2500	5000	85000
26-Jan-09	3000	12000	15000	30000	0
27-Jan-09	7000	28000	35000	70000	0
28-Jan-09	13750	55000	68750	137500	72500
29-Jan-09	12750	51000	63750	127500	117500
30-Jan-09	12500	50000	62500	125000	182500
31-Jan-09	3250	13000	16250	32500	155000
<b>Monthly Totals</b>	202500	810000	1012500	2025000	2200000

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 18141.7 Pounds/Month

Coagulant polymer: 509.2 Pounds/Month

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : February 2009

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-Feb-09	2250	9000	11250	22500	0
2-Feb-09	4000	16000	20000	40000	0
3-Feb-09	9375	37500	46875	93750	0
4-Feb-09	10500	42000	52500	105000	106250
5-Feb-09	9875	39500	49375	98750	95000
6-Feb-09	11625	46500	58125	116250	98750
7-Feb-09	2750	11000	13750	27500	121500
8-Feb-09	750	3000	3750	7500	100000
9-Feb-09	2750	11000	13750	27500	0
10-Feb-09	8250	33000	41250	82500	0
11-Feb-09	9750	39000	48750	97500	80000
12-Feb-09	11000	44000	55000	110000	107500
13-Feb-09	9250	37000	46250	92500	105000
14-Feb-09	3000	12000	15000	30000	100000
15-Feb-09	500	2000	2500	5000	75000
16-Feb-09	0	0	0	0	0
17-Feb-09	4000	16000	20000	40000	0
18-Feb-09	9625	38500	48125	96250	45000
19-Feb-09	10625	42500	53125	106250	88750
20-Feb-09	10625	42500	53125	106250	116250
21-Feb-09	8125	32500	40625	81250	106250
22-Feb-09	6000	24000	30000	60000	76250
23-Feb-09	10375	41500	51875	103750	0
24-Feb-09	11000	44000	55000	110000	123750
25-Feb-09	9875	39500	49375	98750	112500
26-Feb-09	9750	39000	48750	97500	106250
27-Feb-09	10125	40500	50625	101250	102500
28-Feb-09	2500	10000	12500	25000	101250
<b>Monthly Totals</b>	198250	793000	991250	1982500	1967750

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 17919.3 Pounds/Month  
Coagulant Polymer : 498.8 Pounds/Month

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : March 2009

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
1-Mar-09	3000	12000	15000	30000	65000
2-Mar-09	8625	34500	43125	86250	0
3-Mar-09	10000	40000	50000	100000	116250
4-Mar-09	9750	39000	48750	97500	100000
5-Mar-09	10500	42000	52500	105000	97500
6-Mar-09	9625	38500	48125	96250	110000
7-Mar-09	2750	11000	13750	27500	98750
8-Mar-09	3750	15000	18750	37500	0
9-Mar-09	10500	42000	52500	105000	0
10-Mar-09	10375	41500	51875	103750	107500
11-Mar-09	9500	38000	47500	95000	118750
12-Mar-09	11375	45500	56875	113750	97500
13-Mar-09	11000	44000	55000	110000	128750
14-Mar-09	2000	8000	10000	20000	125000
15-Mar-09	2000	8000	10000	20000	35000
16-Mar-09	9875	39500	49375	98750	0
17-Mar-09	10125	40500	50625	101250	111250
18-Mar-09	9875	39500	49375	98750	113750
19-Mar-09	9625	38500	48125	96250	101250
20-Mar-09	11000	44000	55000	110000	98750
21-Mar-09	3250	13000	16250	32500	105000
22-Mar-09	3750	15000	18750	37500	35000
23-Mar-09	10125	40500	50625	101250	0
24-Mar-09	9750	39000	48750	97500	126250
25-Mar-09	10625	42500	53125	106250	112500
26-Mar-09	10500	42000	52500	105000	111250
27-Mar-09	8125	32500	40625	81250	105000
28-Mar-09	2500	10000	12500	25000	81250
29-Mar-09	3000	12000	15000	30000	25000
30-Mar-09	11750	47000	58750	117500	0
31-Mar-09	10875	43500	54375	108750	150000
Monthly Totals	249500	998000	1247500	2495000	2476250

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate :	21051.6 Pounds/Mc
Coagulant Polymer :	582.9Pounds/Month

**APPENDIX B - REPORT FORM 2**  
**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

Reporting Period: From **January 2009** to **March 2009**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
14-Jan-09	38459	25167	48500	6650	650	3800	2395	6.9
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
18-Feb-09	72958	49726	34623	4526	880	4900	2420	6.8
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
4-Mar-09	46759	26242	34119	5763	745	4950	2555	7.1
OD 93-01 Permit Limits	95,760	77,170	105,900	52,110	3,080	13,370	7,640	6.2 to 7.3

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.02	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	



# **APPENDIX B - REPORT FORM 1**

## **Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : October 2008**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
Oct-01-08	12500	50000	62500	125000	106250
Oct-02-08	11625	46500	58125	116250	161250
Oct-03-08	11750	47000	58750	117500	110000
Oct-04-08	3750	15000	18750	37500	112500
Oct-05-08	5000	20000	25000	50000	105000
Oct-06-08	7750	31000	38750	77500	0
Oct-07-08	10750	43000	53750	107500	97500
Oct-08-08	10250	41000	51250	102500	105000
Oct-09-08	9375	37500	46875	93750	112500
Oct-10-08	10500	42000	52500	105000	98750
Oct-11-08	2500	10000	12500	25000	95000
Oct-12-08	1000	4000	5000	10000	93750
Oct-13-08	0	0	0	0	0
Oct-14-08	4250	17000	21250	42500	0
Oct-15-08	5875	23500	29375	58750	52500
Oct-16-08	8500	34000	42500	85000	60000
Oct-17-08	7250	29000	36250	72500	85000
Oct-18-08	5750	23000	28750	57500	72500
Oct-19-08	2000	8000	10000	20000	57500
Oct-20-08	4250	17000	21250	42500	0
Oct-21-08	8625	34500	43125	86250	0
Oct-22-08	8125	32500	40625	81250	116250
Oct-23-08	9625	38500	48125	96250	96250
Oct-24-08	10875	43500	54375	108750	108750
Oct-25-08	5750	23000	28750	57500	101250
Oct-26-08	4250	17000	21250	42500	75000
Oct-27-08	3125	12500	15625	31250	0
Oct-28-08	12000	48000	60000	120000	61250
Oct-29-08	11125	44500	55625	111250	92500
Oct-30-08	10000	40000	50000	100000	101250
Oct-31-08	13375	53500	66875	133750	107500
<b>Monthly Totals</b>	<b>231500</b>	<b>926000</b>	<b>1157500</b>	<b>2315000</b>	<b>2385000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 21470.3 Pounds/Month  
Coagulant polymer: 610.8 Pounds/Month

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : November 2008

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
Nov-01-08	11000	44000	55000	110000	98750
Nov-02-08	4250	17000	21250	42500	195000
Nov-03-08	8625	34500	43125	86250	0
Nov-04-08	13250	53000	66250	132500	88750
Nov-05-08	10500	42000	52500	105000	110000
Nov-06-08	10000	40000	50000	100000	112500
Nov-07-08	9125	36500	45625	91250	102500
Nov-08-08	2000	8000	10000	20000	103750
Nov-09-08	3000	12000	15000	30000	75000
Nov-10-08	8750	35000	43750	87500	0
Nov-11-08	9425	37700	47125	94250	122500
Nov-12-08	10875	43500	54375	108750	71750
Nov-13-08	11750	47000	58750	117500	101250
Nov-14-08	9750	39000	48750	97500	107500
Nov-15-08	10125	40500	50625	101250	102500
Nov-16-08	6500	26000	32500	65000	113750
Nov-17-08	12000	48000	60000	120000	115000
Nov-18-08	10500	42000	52500	105000	122500
Nov-19-08	11500	46000	57500	115000	112500
Nov-20-08	13250	53000	66250	132500	112500
Nov-21-08	14500	58000	72500	145000	85000
Nov-22-08	10550	42200	52750	105500	95000
Nov-23-08	5250	21000	26250	52500	183000
Nov-24-08	8500	34000	42500	85000	0
Nov-25-08	11125	44500	55625	111250	135000
Nov-26-08	10000	40000	50000	100000	93750
Nov-27-08	2000	8000	10000	20000	90000
Nov-28-08	2250	9000	11250	22500	90000
Nov-29-08	1500	6000	7500	15000	0
Nov-30-08	4250	17000	21250	42500	0
<b>Monthly Totals</b>	256100	1024400	1280500	2561000	2739750

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 22583.3 Pounds/Month  
Coagulant Polymer : 657.4 Pounds/Month

# **APPENDIX B - REPORT FORM 1**

## **Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : December 2008**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
Dec-01-08	9125	36500	45625	91250	0
Dec-02-08	14750	59000	73750	147500	161250
Dec-03-08	11125	44500	55625	111250	180000
Dec-04-08	8750	35000	43750	87500	96250
Dec-05-08	11625	46500	58125	116250	72500
Dec-06-08	6000	24000	30000	60000	118750
Dec-07-08	3000	12000	15000	30000	75000
Dec-08-08	8375	33500	41875	83750	0
Dec-09-08	10625	42500	53125	106250	88750
Dec-10-08	12375	49500	61875	123750	106250
Dec-11-08	11750	47000	58750	117500	101250
Dec-12-08	10875	43500	54375	108750	105000
Dec-13-08	9750	39000	48750	97500	108750
Dec-14-08	4250	17000	21250	42500	107500
Dec-15-08	8250	33000	41250	82500	0
Dec-16-08	10500	42000	52500	105000	137500
Dec-17-08	12000	48000	60000	120000	117500
Dec-18-08	10875	43500	54375	108750	107500
Dec-19-08	11350	45400	56750	113500	138750
Dec-20-08	1000	4000	5000	10000	130000
Dec-21-08	2250	9000	11250	22500	0
Dec-22-08	250	1000	1250	2500	0
Dec-23-08	3000	12000	15000	30000	0
Dec-24-08	1000	4000	5000	10000	0
Dec-25-08	500	2000	2500	5000	0
Dec-26-08	250	1000	1250	2500	0
Dec-27-08	750	3000	3750	7500	0
Dec-28-08	500	2000	2500	5000	0
Dec-29-08	0	0	0	0	0
Dec-30-08	500	2000	2500	5000	0
Dec-31-08	0	0	0	0	0
<b>Monthly Totals</b>	<b>195350</b>	<b>781400</b>	<b>976750</b>	<b>1953500</b>	<b>1952500</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 15968 Pounds/Month  
Coagulant Polymer : 467.1 Pounds/Month

**APPENDIX B - REPORT FORM 2**

**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From   October 2008                   to                   December 2008**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
1-Oct-08	49923	33673	60288	6820	685	3500	3650	6.66
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
11-Nov-08	62871	44194	61758	5840	600	3000	2555	6.89
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
10-Dec-08	34451	17571	49157	6451	615	4600	3930	6.83
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : July 2008**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
01-July-2008	12250	49000	61250	122500	163750
02-July-2008	12250	49000	61250	122500	125000
03-July-2008	9000	36000	45000	90000	0
04-July-2008	3000	12000	15000	30000	185000
05-July-2008	2000	8000	10000	20000	0
06-July-2008	3750	15000	18750	37500	80000
07-July-2008	10625	42500	53125	106250	0
08-July-2008	10625	42500	53125	106250	148750
09-July-2008	8750	35000	43750	87500	113750
10-July-2008	11125	44500	55625	111250	87500
11-July-2008	9750	39000	48750	97500	101250
12-July-2008	4000	16000	20000	40000	102500
13-July-2008	3000	12000	15000	30000	50000
14-July-2008	10125	40500	50625	101250	0
15-July-2008	12250	49000	61250	122500	91250
16-July-2008	9625	38500	48125	96250	110000
17-July-2008	10375	41500	51875	103750	93750
18-July-2008	10375	41500	51875	103750	98750
19-July-2008	2750	11000	13750	27500	101250
20-July-2008	4250	17000	21250	42500	82500
21-July-2008	9500	38000	47500	95000	60000
22-July-2008	9500	38000	47500	95000	100000
23-July-2008	10125	40500	50625	101250	70000
24-July-2008	11000	44000	55000	110000	158750
25-July-2008	9500	38000	47500	95000	87500
26-July-2008	3250	13000	16250	32500	82500
27-July-2008	3250	13000	16250	32500	55000
28-July-2008	10375	41500	51875	103750	0
29-July-2008	10250	41000	51250	102500	101250
30-July-2008	10875	43500	54375	108750	102500
31-July-2008	10250	41000	51250	102500	103750
<b>Monthly Totals</b>	<b>257750</b>	<b>1031000</b>	<b>1288750</b>	<b>2577500</b>	<b>2656250</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate: 19816.7 Pounds/Month  
Coagulant polymer: 522.4 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : August 2008**

<b>OD 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
01-Aug-2008	9250	37000	46250	92500	100000
02-Aug-2008	5000	20000	25000	50000	105000
03-Aug-2008	4500	18000	22500	45000	95000
04-Aug-2008	9625	38500	48125	96250	0
05-Aug-2008	10375	41500	51875	103750	96250
06-Aug-2008	10000	40000	50000	100000	162500
07-Aug-2008	10875	43500	54375	108750	81250
08-Aug-2008	11750	47000	58750	117500	78750
09-Aug-2008	2500	10000	12500	25000	107500
10-Aug-2008	3750	15000	18750	37500	87500
11-Aug-2008	8500	34000	42500	85000	0
12-Aug-2008	11250	45000	56250	112500	85000
13-Aug-2008	11500	46000	57500	115000	100000
14-Aug-2008	11625	46500	58125	116250	110000
15-Aug-2008	10625	42500	53125	106250	106250
16-Aug-2008	5000	20000	25000	50000	106250
17-Aug-2008	2750	11000	13750	27500	115000
18-Aug-2008	9875	39500	49375	98750	0
19-Aug-2008	11000	44000	55000	110000	98750
20-Aug-2008	10875	43500	54375	108750	105000
21-Aug-2008	10150	40600	50750	101500	98750
22-Aug-2008	11000	44000	55000	110000	101500
23-Aug-2008	2000	8000	10000	20000	163750
24-Aug-2008	3500	14000	17500	35000	52500
25-Aug-2008	9250	37000	46250	92500	0
26-Aug-2008	11625	46500	58125	116250	92500
27-Aug-2008	12125	48500	60625	121250	106250
28-Aug-2008	10000	40000	50000	100000	103750
29-Aug-2008	10875	43500	54375	108750	95000
30-Aug-2008	3000	12000	15000	30000	143750
31-Aug-2008	1000	4000	5000	10000	80000
	255150	1020600	1275750	2551500	2777750

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 19118.1 Pounds/Month  
Coagulant Polymer : 514.7 Pounds/Month

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : September 2008

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
01-Sept-2008	4750	19000	23750	47500	0
02-Sept-2008	8375	33500	41875	83750	0
03-Sept-2008	11375	45500	56875	113750	93750
04-Sept-2008	10000	40000	50000	100000	118750
05-Sept-2008	11000	44000	55000	110000	90000
06-Sept-2008	9000	36000	45000	90000	95000
07-Sept-2008	5000	20000	25000	50000	90000
08-Sept-2008	9750	39000	48750	97500	115000
09-Sept-2008	11125	44500	55625	111250	117500
10-Sept-2008	11750	47000	58750	117500	86250
11-Sept-2008	11750	47000	58750	117500	95000
12-Sept-2008	11125	44500	55625	111250	105000
13-Sept-2008	11750	47000	58750	117500	176250
14-Sept-2008	5000	20000	25000	50000	142500
15-Sept-2008	9125	36500	45625	91250	0
16-Sept-2008	11750	47000	58750	117500	101250
17-Sept-2008	11125	44500	55625	111250	107500
18-Sept-2008	10375	41500	51875	103750	101250
19-Sept-2008	2750	11000	13750	27500	101250
20-Sept-2008	1500	6000	7500	15000	107500
21-Sept-2008	2500	10000	12500	25000	0
22-Sept-2008	10500	42000	52500	105000	0
23-Sept-2008	11000	44000	55000	110000	150000
24-Sept-2008	11500	46000	57500	115000	110000
25-Sept-2008	11000	44000	55000	110000	110000
26-Sept-2008	11250	45000	56250	112500	107500
27-Sept-2008	9125	36500	45625	91250	97500
28-Sept-2008	2250	9000	11250	22500	98750
29-Sept-2008	10750	43000	53750	107500	0
30-Sept-2008	13125	52500	65625	131250	105000
<b>Monthly Totals</b>	271375	1085500	1356875	2713750	2622500

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 22053.3 Pounds/Month  
Coagulant Polymer : 608.3 Pounds/Month



**APPENDIX B - REPORT FORM 2**

**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From    July 2008                      to                      September 2008**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
9-Jul-08	58973	41016	62569	6479	660	5450	3425	6.8
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
14-Aug-08	60344	42578	53565	6924	480	5550	2435	6.7
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
10-Sept-08	44627	32243	70323	7018	690	2200	2020	6.9
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	

# APPENDIX B - REPORT FORM 1

## Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site

Month : April 2008

OD 93-01	DAF Sludge Generated (gallons/day)	Cooker Water Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)
Permit Limits	30,000	70,000	100,000	200,000

Date	DAF Sludge Generated (gallons/day)	Cooker Juice Generated (gallons/day)	Press Liquor Generated (gallons/day)	Total Generated (gallons/day)	Volume Ocean Disposed (gallons/day)
01-April-2008	8750	35000	43750	87500	118750
02-April-2008	9500	38000	47500	95000	97500
03-April-2008	9375	37500	46875	93750	95000
04-April-2008	9375	37500	46875	93750	101250
05-April-2008	10375	41500	51875	103750	101250
06-April-2008	4500	18000	22500	45000	131250
07-April-2008	7875	31500	39375	78750	0
08-April-2008	9125	36500	45625	91250	108750
09-April-2008	8750	35000	43750	87500	93750
10-April-2008	9875	39500	49375	98750	90000
11-April-2008	9500	38000	47500	95000	101250
12-April-2008	8500	34000	42500	85000	95000
13-April-2008	1000	4000	5000	10000	95000
14-April-2008	3500	14000	17500	35000	60000
15-April-2008	0	0	0	0	0
16-April-2008	0	0	0	0	0
17-April-2008	250	1000	1250	2500	0
18-April-2008	750	3000	3750	7500	0
19-April-2008	250	1000	1250	2500	0
20-April-2008	1250	5000	6250	12500	0
21-April-2008	250	1000	1250	2500	0
22-April-2008	1000	4000	5000	10000	0
23-April-2008	500	2000	2500	5000	0
24-April-2008	500	2000	2500	5000	57500
25-April-2008	500	2000	2500	5000	0
26-April-2008	250	1000	1250	2500	0
27-April-2008	1750	7000	8750	17500	0
28-April-2008	6750	27000	33750	67500	0
29-April-2008	8250	33000	41250	82500	75000
30-April-2008	8500	34000	42500	85000	82500
<b>Monthly Totals</b>	140750	563000	703750	1407500	1503750

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.

The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum sulfate: 11357.8 Pounds/Month  
Coagulant polymer: 353.3 Pounds/Month

# **APPENDIX B - REPORT FORM 1**

## **Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : May 2008**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
01-May-2008	9500	38000	47500	95000	90000
02-May-2008	9250	37000	46250	92500	100000
03-May-2008	4000	16000	20000	40000	102500
04-May-2008	1000	4000	5000	10000	40000
05-May-2008	7250	29000	36250	72500	0
06-May-2008	10375	41500	51875	103750	97500
07-May-2008	10000	40000	50000	100000	101250
08-May-2008	11000	44000	55000	110000	105000
09-May-2008	8250	33000	41250	82500	100000
10-May-2008	2750	11000	13750	27500	150000
11-May-2008	2750	11000	13750	27500	0
12-May-2008	8125	32500	40625	81250	0
13-May-2008	10250	41000	51250	102500	88750
14-May-2008	11625	46500	58125	116250	97500
15-May-2008	13250	53000	66250	132500	93750
16-May-2008	11625	46500	58125	116250	188750
17-May-2008	8750	35000	43750	87500	105000
18-May-2008	5750	23000	28750	57500	95000
19-May-2008	10125	40500	50625	101250	0
20-May-2008	10125	40500	50625	101250	121250
21-May-2008	9875	39500	49375	98750	101250
22-May-2008	9500	38000	47500	95000	183750
23-May-2008	9875	39500	49375	98750	60000
24-May-2008	10125	40500	50625	101250	98750
25-May-2008	2500	10000	12500	25000	131250
26-May-2008	4000	16000	20000	40000	0
27-May-2008	7750	31000	38750	77500	50000
28-May-2008	10375	41500	51875	103750	75000
29-May-2008	11250	45000	56250	112500	185000
30-May-2008	9750	39000	48750	97500	53750
31-May-2008	10250	41000	51250	102500	80000
<b>Monthly Totals</b>	<b>261000</b>	<b>1044000</b>	<b>1305000</b>	<b>2610000</b>	<b>2695000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 17998.8 Pounds/Month  
Coagulant Polymer : 565.7 Pounds/Month

**APPENDIX B - REPORT FORM 1**

**Monthly Volumes of StarKist Samoa Fish Processing Wastes Generated Per Day  
and Volumes of Fish Processing Wastes Disposed at the Ocean Site**

**Month : June 2008**

<b>0D 93-01</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Water Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>
<b>Permit Limits</b>	<b>30,000</b>	<b>70,000</b>	<b>100,000</b>	<b>200,000</b>

<b>Date</b>	<b>DAF Sludge Generated (gallons/day)</b>	<b>Cooker Juice Generated (gallons/day)</b>	<b>Press Liquor Generated (gallons/day)</b>	<b>Total Generated (gallons/day)</b>	<b>Volume Ocean Disposed (gallons/day)</b>
01-June-2008	4750	19000	23750	47500	120000
02-June-2008	9250	37000	46250	92500	0
03-June-2008	11250	45000	56250	112500	117500
04-June-2008	10375	41500	51875	103750	100000
05-June-2008	8500	34000	42500	85000	103750
06-June-2008	10500	42000	52500	105000	95000
07-June-2008	10125	40500	50625	101250	97500
08-June-2008	3950	15800	19750	39500	101250
09-June-2008	10750	43000	53750	107500	105000
10-June-2008	12000	48000	60000	120000	92500
11-June-2008	13000	52000	65000	130000	100000
12-June-2008	4500	18000	22500	45000	170000
13-June-2008	1750	7000	8750	17500	65000
14-June-2008	750	3000	3750	7500	0
15-June-2008	3000	12000	15000	30000	30000
16-June-2008	9625	38500	48125	96250	0
17-June-2008	12000	48000	60000	120000	116250
18-June-2008	11000	44000	55000	110000	165000
19-June-2008	10500	42000	52500	105000	85000
20-June-2008	10500	42000	52500	105000	90000
21-June-2008	3000	12000	15000	30000	102500
22-June-2008	7750	31000	38750	77500	75000
23-June-2008	10750	43000	53750	107500	0
24-June-2008	10500	42000	52500	105000	125000
25-June-2008	11750	47000	58750	117500	155000
26-June-2008	11375	45500	56875	113750	107500
27-June-2008	11375	45500	56875	113750	108750
28-June-2008	10875	43500	54375	108750	128750
29-June-2008	6000	24000	30000	60000	158750
30-June-2008	10125	40500	50625	101250	0
<b>Monthly Totals</b>	<b>261575</b>	<b>1046300</b>	<b>1307875</b>	<b>2615750</b>	<b>2715000</b>

NOTE: An asterisk (\*) to the right of the fish processing waste volume signifies that a violation of the permit limit has occurred.  
The number of violations are shown in the Monthly Totals row.

Monthly quantities of alum (aluminum sulfate) and coagulant polymer added to the fish processing waste streams:

Aluminum Sulfate : 17935.2 Pounds/Month  
Coagulant Polymer : 517.8 Pounds/Month

**APPENDIX B - REPORT FORM 2**  
**Data Form for 3-Month Report on Waste Stream Analyses for StarKist Samoa MPRSA 102 Permit #OD 93-01**

**Reporting Period: From    April 2008                    to                    June 2008**

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
April 09, 2008	69889	50079	50163	3844	675	4500	1245	6.67
<b>OD 93-01 Permit Limits</b>	<b>95,750</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
May 14, 2008	56263	40843	54618	6971	585	4300	3530	6.86
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

**StarKist Samoa - On Shore Storage Tank**

Month & Year	Total Solids (mg/L)	Total Volatile Solids (mg/L)	5-day Biological Oxygen Demand (mg/L)	Oil & Grease (mg/L)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Ammonia (mg/L)	pH (pH units)
June 18, 2008	59521	36551	57027	7489	785	5450	1800	6.52
<b>OD 93-01 Permit Limits</b>	<b>95,760</b>	<b>77,170</b>	<b>105,900</b>	<b>52,110</b>	<b>3,080</b>	<b>13,370</b>	<b>7,640</b>	<b>6.2 to 7.3</b>

Note: An asterisk (\*) next to the waste concentration signifies that a violation of the permit limit has occurred.

Density (g/mL)	
1.02	
0.93 to 1.05	

Density (g/mL)	
1.00	
0.93 to 1.05	

Density (g/mL)	
1.01	
0.93 to 1.05	



Report Date: 09/24/2010

AS0000019

## Measurement Report with Limits

Monitoring Period Dates: 4/1/2008 - 6/30/2010

**STAR-KIST SAMOA TUNA CANNERY** Eff. Date: 04/01/2008 Exp. Date: 03/31/2013

001A

BOD, 5-day, 20 deg. C 00310 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013

Season 0

Limit Value	Req. Mon.	Req. Mon.
Units	mg/L C2	mg/L C3
Stat Base	MO AVG	DAILY MX
04/30/2008	577.7	618
05/31/2008	548.8	587.3
06/30/2008	545.7	606.8
07/31/2008	6492.8	9730.4
08/31/2008	6987.8	8758
09/30/2008	5259.6	7700.4
10/31/2008	Not Submitted	Not Submitted
11/30/2008	Not Submitted	Not Submitted
12/31/2008	Not Submitted	Not Submitted
01/31/2009	425	540
02/28/2009	454	613.3
03/31/2009	408.9	513.5
04/30/2009	447.8	585.3
05/31/2009	355	458.5
06/30/2009	475.8	613.2
07/31/2009	429.1	456.2
08/31/2009	485.4	656.3
09/30/2009	455.1	575.4
10/31/2009	326.6	326.6
11/30/2009	297.6	495.3
12/31/2009	511.7	5534.3
01/31/2010	312.8	26.6
02/28/2010	416.7	437.2
03/31/2010	403	475.1
04/30/2010	296.1	335.4
05/31/2010	311.9	364.7
06/30/2010	287.4	370.5

8.1  
7.2  
7.0  
6.5  
6.8

Flow, in conduit or thru treatment plant 50050 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

<u>Limit Value</u>	Req. Mon.	Req. Mon.
<u>Units</u>	Mgal/d Q1	Mgal/d Q2
<u>Stat Base</u>	MO AVG	DAILY MX
04/30/2008	.99	1.94
05/31/2008	1.36	1.81
06/30/2008	1.43	2.13
07/31/2008	1.345484	2.06
08/31/2008	1.252258	1.83
09/30/2008	1.499	1.98
10/31/2008	1.239677	1.93
11/30/2008	1.505333	2.4
12/31/2008	1.069655	1.93
01/31/2009	1.09	1.83
02/28/2009	1.12	1.73
03/31/2009	1.09	1.71
04/30/2009	1.041	1.75
05/31/2009	1.042258	1.63
06/30/2009	1.159	1.72
07/31/2009	1.103225	1.63
08/31/2009	1.246129	1.72
09/30/2009	1.128966	1.6
10/31/2009	1.12125	1.6
11/30/2009	1.324333	1.95
12/31/2009	.894194	1.67
01/31/2010	1.236129	1.77
02/28/2010	1.296666	1.96
03/31/2010	1.242258	1.85
04/30/2010	1.459667	1.97
05/31/2010	1.15871	1.99
06/30/2010	1.595	1.98

Nitrogen, ammonia total (as N) 00610 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

<u>Limit Value</u>	2016	4045	83.36	167.26
<u>Units</u>	lb/d Q1	lb/d Q2	mg/L C2	mg/L C3
<u>Stat Base</u>	MO AVG	DAILY MX	30DA AVG	DAILY MX
04/30/2008	Not Submitted	Not Submitted	20.5	30.9
05/31/2008	Not Submitted	Not Submitted	18.7	22.5
06/30/2008	Not Submitted	Not Submitted	24.2	28.3
07/31/2008	388.4	494.4	27.2	33.4
08/31/2008	421.5	575	30.9	41.4
09/30/2008	435	571.8	28.7	36
10/31/2008	433.4	578.4	13.3	36.8
11/30/2008	410.1	564.8	24.5	33.2
12/31/2008	382.7	507.2	25.8	31.6
01/31/2009	251.6	305.3	19.2	22.8
02/28/2009	239.8	260.4	17.9	19.7

03/31/2009	328.3	432.5	30.2	39.4
04/30/2009	434	512.3	337.3	44
05/31/2009	438.5	564.3	36.3	46.8
06/30/2009	345.3	384.1	26.9	29.8
07/31/2009	389	524.1	31.2	42.3
08/31/2009	404.5	620.9	28.5	37.9
09/30/2009	259.2	368	22	29.7
10/31/2009	373.9	373.9	28.1	28.1
11/30/2009	407.5	542.7	30.7	44.7
12/31/2009	419.1	1257.3	Not Submitted	Not Submitted
01/31/2010	346.5	391.5	26	26.6
02/28/2010	295.3	389.6	21	25.3
03/31/2010	264.4	310.8	19.4	20.2
04/30/2010	391.1	580.5	29.5	43.9
05/31/2010	453.1	509.2	30.9	37.8
06/30/2010	442.4	555.4	31.4	36.9

**Nitrogen, total (as N) 00600    Monitoring Location = 1 (Effluent Gross)**

Limit Start Date = 04/01/2008    Limit End Date = 03/31/2013

Season 0

<u>Limit Value</u>	1200	2100
<u>Units</u>	lb/d Q1	lb/d Q2
<u>Stat Base</u>	MO AVG	DAILY MX
04/30/2008	1004.4	1135.1
05/31/2008	927.4	1070.8
06/30/2008	1037	1259.6
07/31/2008	1038.5	1222
08/31/2008	1024.5	1217.5
09/30/2008	769.9	980.6
10/31/2008	869.7	1251.9
11/30/2008	1163.2	1457
12/31/2008	1140.6	1251.9
01/31/2009	723.7	858.2
02/28/2009	937.3	1165.3
03/31/2009	811	960
04/30/2009	898.5	1057
05/31/2009	852.4	1111.5
06/30/2009	904.4	1101.4
07/31/2009	836.1	1003.7
08/31/2009	932.7	1070.3
09/30/2009	801.4	1039.17
10/31/2009	954	997.9
11/30/2009	764.2	1001.7
12/31/2009	929.6	1051.9
01/31/2010	704	1011.2
02/28/2010	814.2	1033.3
03/31/2010	752.6	1009.9
04/30/2010	883	1095.7
05/31/2010	992.4	1224.6
06/30/2010	932.7	1197.5

Oil and grease 03582 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

Limit Value	1008	2520
Units	lb/d Q1	lb/d Q2
Stat Base	MO AVG	DAILY MX
04/30/2008	585	838.3
05/31/2008	582.1	962.6
06/30/2008	390.1	475.9
07/31/2008	264.2	527
08/31/2008	328.4	512.3
09/30/2008	367.4	748.2
10/31/2008	236.1	342.6
11/30/2008	350.5	528.3
12/31/2008	278.3	456.6
01/31/2009	229.1	414.6
02/28/2009	311.3	529.5
03/31/2009	159.5	255.6
04/30/2009	223	369.4
05/31/2009	144.3	267
06/30/2009	213.1	275.4
07/31/2009	188.2	345.7
08/31/2009	193.5	221.2
09/30/2009	238.8	584.9
10/31/2009	208.9	208.9
11/30/2009	180.8	385.5
12/31/2009	369.5	650.8
01/31/2010	231	457.6
02/28/2010	224.2	425.4
03/31/2010	286.5	376.4
04/30/2010	196.7	304.1
05/31/2010	341.2	458.4
06/30/2010	230.9	338.3

pH 00400 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

Limit Value	6.5	8.6
Units	SU C1	SU C3
Stat Base	MINIMUM	MAXIMUM
04/30/2008	6.7	8.1
05/31/2008	6.7	7.6
06/30/2008	6.7	7.1
07/31/2008	6.7	7.3
08/31/2008	6.6	7.4
09/30/2008	6.7	7.4
10/31/2008	6.7	7.5
11/30/2008	6.6	7.4
12/31/2008	6.7	7.4
01/31/2009	6.7	7.4
02/28/2009	6.7	7.3

03/31/2009	6.7	7.4
04/30/2009	6.5	7.4
05/31/2009	6.7	7.4
06/30/2009	6.7	7.3
07/31/2009	6.8	7.3
08/31/2009	6.9	7.6
09/30/2009	7.1	7.4
10/31/2009	7.1	7.3
11/30/2009	7	7.3
12/31/2009	7	7.3
01/31/2010	7	7.3
02/28/2010	7	7.2
03/31/2010	7	7.2
04/30/2010	7	7.1
05/31/2010	7	7.2
06/30/2010	7	7.2

**Phosphorus, total (as P) 00665 Monitoring Location = 1 (Effluent Gross)**

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

<b>Limit Value</b>	<b>192</b>	<b>309</b>
<b>Units</b>	<b>lb/d Q1</b>	<b>lb/d Q2</b>
<b>Stat Base</b>	<b>MO AVG</b>	<b>DAILY MX</b>
04/30/2008	157.6	168
05/31/2008	140.7	162.1
06/30/2008	167.2	189.7
07/31/2008	151.9	173.8
08/31/2008	139.9	172
09/30/2008	134.4	164.4
10/31/2008	136.1	168.2
11/30/2008	152.7	199.6
12/31/2008	150.7	169.2
01/31/2009	123.8	150.9
02/28/2009	143.4	170.5
03/31/2009	119.9	165.8
04/30/2009	122	156.7
05/31/2009	119.7	155.5
06/30/2009	141	182.2
07/31/2009	135.3	155
08/31/2009	151.4	174.3
09/30/2009	122.7	145.4
10/31/2009	123.5	133.1
11/30/2009	125.8	144.5
12/31/2009	150.5	902.9
01/31/2010	100.2	135.4
02/28/2010	105.9	145.1
03/31/2010	145.7	179.5
04/30/2010	135.1	172
05/31/2010	143.9	159.2
06/30/2010	133.5	166.7

Solids, total suspended 00530 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

Limit Value	3960	9960
Units	lb/d Q1	lb/d Q2
Stat Base	MO AVG	DAILY MX
04/30/2008	2173.5	2553.3
05/31/2008	2574.9	3055.1
06/30/2008	2427.4	2826.2
07/31/2008	1823.3	2214.5
08/31/2008	1916	2151.5
09/30/2008	2317.2	3381.6
10/31/2008	1625.1	1854.6
11/30/2008	1869.8	2648.5
12/31/2008	1776.5	2025.9
01/31/2009	1520.7	1949.3
02/28/2009	1690.1	2067.7
03/31/2009	1220.5	1513.9
04/30/2009	1327.8	1842.2
05/31/2009	1018.7	1458.8
06/30/2009	1300	1543.4
07/31/2009	1306.3	1743.4
08/31/2009	1541.2	1937.4
09/30/2009	104.03	1156.1
10/31/2009	2120.3	2102.3
11/30/2009	1427	2073
12/31/2009	1621	1841.4
01/31/2010	704	1572.4
02/28/2010	1160.6	1776.3
03/31/2010	1226.2	1558.5
04/30/2010	1304.5	1729.3
05/31/2010	1061.9	1295.3
06/30/2010	1037.3	1546.3

Temperature, water deg. fahrenheit 00011 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 04/01/2008 Limit End Date = 03/31/2013  
Season 0

Limit Value	90	95
Units	deg F C2	deg F C3
Stat Base	30DA AVG	DAILY MX
04/30/2008	83	93
05/31/2008	84	93
06/30/2008	84	91
07/31/2008	81	87
08/31/2008	81	89
09/30/2008	84	93
10/31/2008	83	90
11/30/2008	84	94
12/31/2008	84	93
01/31/2009	84	92
02/28/2009	84	91
03/31/2009	86	92
04/30/2009	85	92

05/31/2009	85	90
06/30/2009	84	95
07/31/2009	83	89
08/31/2009	82	90
09/30/2009	75	84
10/31/2009	80	82
11/30/2009	82	82
12/31/2009	84	88
01/31/2010	78	82
02/28/2010	77	81
03/31/2010	80	82
04/30/2010	81	82
05/31/2010	80	82
06/30/2010	80	81

### 001S

#### Copper, total recoverable 01119 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 07/01/2008 Limit End Date = 03/31/2013  
Season 0

<u>Limit Value</u>	1.41	2.84	58.42	117.2
<u>Units</u>	lb/d Q1	lb/d Q2	ug/L C2	ug/L C3
<u>Stat Base</u>	MO AVG	DAILY MX	30DA AVG	DAILY MX
12/31/2008	.048	.048	3.1	3.1
06/30/2009	Not Submitted	Not Submitted	Not Submitted	Not Submitted
12/31/2009	.018	.018	1.27	1.27
06/30/2010	Not Submitted	Not Submitted	Not Submitted	Not Submitted

#### Mercury, total recoverable 71901 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 07/01/2008 Limit End Date = 03/31/2013  
Season 0

<u>Limit Value</u>	.04	.11	1.8	4.72
<u>Units</u>	lb/d Q1	lb/d Q2	ug/L C2	ug/L C3
<u>Stat Base</u>	MO AVG	DAILY MX	30DA AVG	DAILY MX
12/31/2008	.001	.001	.089	.089
06/30/2009	Not Submitted	Not Submitted	Not Submitted	Not Submitted
12/31/2009	.0018	.0018	.13	.13
06/30/2010	Not Submitted	Not Submitted	Not Submitted	Not Submitted

#### Zinc, total recoverable 01094 Monitoring Location = 1 (Effluent Gross)

Limit Start Date = 07/01/2008 Limit End Date = 03/31/2013  
Season 0

<u>Limit Value</u>	27.52	55.24	1138	2284
<u>Units</u>	lb/d Q1	lb/d Q2	ug/L C2	ug/L C3
<u>Stat Base</u>	MO AVG	DAILY MX	30DA AVG	DAILY MX
12/31/2008	3.64	3.64	233	233
06/30/2009	Not Submitted	Not Submitted	Not Submitted	Not Submitted
12/31/2009	1.74	1.74	125	125
06/30/2010	Not Submitted	Not Submitted	Not Submitted	Not Submitted

Sara Greiner/R9/USEPA/US

03/21/2008 12:28 PM

To "Steven Costa" <glatzeldacosta@suddenlink.net>

cc Carl Goldstein/R9/USEPA/US@EPA, "Karen Glatzel"  
<kargatgdc@suddenlink.net>

bcc Sara Greiner/R9/USEPA/US

Subject Re: Need an Opinion on Oil & Grease sampling for the  
canneries under the new permit

Hi Steve,

Good question. Sorry it took me so long to get back to you.

In the cannery permits, the permit effluent limitations for oil and grease are expressed as a "daily max" and "average monthly" based on weekly sampling using discrete or grab samples. Generally, the daily max is viewed as an average of the values taken over a consecutive 24 hour period and which may be expressed as a composite sample or, in the case of oil and grease, an average of several discrete "subsamples" as described in the previous permit (as opposed to an instantaneous maximum, which would be the max of any one individual sample).

However, in the new permits, the sampling frequency is reduced to only require that one grab sample be taken per week. So, there is no requirement for the facilities to sample (or do sub-sampling) more than once during the week - thereby having the one weekly sample represent more of an instantaneous max or the daily max and the four samples taken per month average to obtain an average monthly. The facilities can decide whether they want to keep the sampling frequency as in the previous permit based on the data (of which I have not had a chance to review again). It is generally in the best interest of the facility to sample more frequently than once due to the risk of sampling when the natural variability of the effluent is high and a result might indicate noncompliance. I cannot recall if noncompliance is ever an issue. Sampling more frequently would decrease the risk of a sample being above the daily max and would provide a better representation of the effluent. Note that the facility can sample as often as they wish but all sampling data must be included in the DMR and reported to EPA.

Does this help????

sng

Sara N. Greiner  
U.S. Environmental Protection Agency  
Clean Water Act Standards and Permits Office  
75 Hawthorne Street, WTR-5  
San Francisco, California 94105  
Telephone: 415-972-3042  
Fax: 415-947-3545

"Steven Costa" <glatzeldacosta@suddenlink.net>



"Steven Costa"  
<glatzeldacosta@suddenlink.net>

03/18/2008 12:42 PM

Please respond to  
"Steven Costa"  
<glatzeldacosta@suddenlink.net>

To Sara Greiner/R9/USEPA/US@EPA, Carl  
Goldstein/R9/USEPA/US@EPA

cc "Karen Glatzel" <kargatgdc@suddenlink.net>

Subject Need an Opinion on Oil & Grease sampling for the canneries  
under the new permit

Sara, Carl:

A detail we appear to have missed.

The current permit requires Oil & Grease sampling weekly, but each "sample" result is specified as the mean of four sub-samples taken during the "production period". These means to be used as the basis for reporting daily max and monthly means on the DMR's.

The new permit simply specifies Oil and Grease to be sampled weekly, without the note concerning sub-samples.

There are obvious reasons for doing it either way - what was EPA's intention and how should the canneries proceed after April 1st when the new permits become effective?

Thanks

Steve



7006 0100 0002 4269 9538

<b>U.S. Postal Service™</b>	
<b>CERTIFIED MAIL™ RECEIPT</b>	
<i>(Domestic Mail Only; No Insurance Coverage Provided)</i>	
For delivery information visit our website at <a href="http://www.usps.com">www.usps.com</a>	
Postage \$	
Certified Fee	
Return Receipt Fee (Endorsement Required)	
Restricted Delivery Fee (Endorsement Required)	
Total Postage & Fees	\$
Postmark Here	
FEB 19 2008	
Sent To Mr. Steve Costa, gdc	
Street, Apt. No., or PO Box No. P. O. Box 1238	
City, State, ZIP+4 Trinidad, CA 95570	
PS Form 3800, June 2002 See Reverse for Instructions	

SENDER: COMPLETE THIS SECTION	COMPLETE THIS SECTION ON DELIVERY
<ul style="list-style-type: none"><li>■ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.</li><li>■ Print your name and address on the reverse so that we can return the card to you.</li><li>■ Attach this card to the back of the mailpiece, or on the front if space permits.</li></ul>	A. Received by (Please Print Clearly) <u>STEVEN L. COSTA</u>
	B. Date of Delivery <u>2/27/08</u>
1. Article Addressed to:  Mr. Steve Costa gdc P. O. Box 1238 Trinidad, CA 95570	C. Signature <u>X</u> <u>SK Costa</u> <input type="checkbox"/> Agent <input type="checkbox"/> Addressee
	D. Is delivery address different from item 1? <input type="checkbox"/> Yes If YES, enter delivery address below: <input type="checkbox"/> No
2. Article Number (Copy from service label)	3. Service Type <input type="checkbox"/> Certified Mail <input type="checkbox"/> Express Mail <input type="checkbox"/> Registered <input type="checkbox"/> Return Receipt for Merchandise <input type="checkbox"/> Insured Mail <input type="checkbox"/> C.O.D.
	4. Restricted Delivery? (Extra Fee) <input type="checkbox"/> Yes

7006 0100 0002 4269 9538



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Certified Mail: 7006 0100 0002 4269 9538  
Return Receipt Requested

**FEB 19 2008**

Mr. Steve Costa  
gdc  
P.O. Box 1238  
Trinidad, CA 95570

**RE: RESPONSE TO COMMENTS ON DRAFT NPDES PERMIT FOR STARKIST  
SAMOA, INC. FACILITY, NPDES NO. AS0000019**

Dear Mr. Costa:

U.S. Environmental Protection Agency ("EPA") has received your comments on the Draft National Pollutant Discharge Elimination System ("NPDES") permit, NPDES No. AS0000019, for the StarKist Samoa, Inc. facility located on the island of Tutuila in American Samoa. You submitted comments on behalf of StarKist Samoa, Inc. that were dated January 30, 2008, and were received electronically by EPA within the 30-day public comment period on January 31, 2008. The public comment period was from January 9 to February 7, 2008.

Pursuant to 40 CFR 124.17(a)(2), EPA is required to respond to all significant comments on the draft permit raised during the public comment period. Enclosed is EPA's response to gdc's comments on behalf of StarKist Samoa, Inc. No other public comments were received on the Draft NPDES Permit for StarKist Samoa, Inc.'s facility.

If you have any questions regarding our response to these comments, please contact Mr. Carl Goldstein of the Pacific Islands Office by telephone at (415) 972-9767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Eberhardt".

Doug Eberhardt, Chief  
CWA Standards and Permits Office

Enclosure

cc: Director, American Samoa EPA  
Mr. Brett Butler, StarKist Samoa, Inc.

**U.S. Environmental Protection Agency, Region IX**  
**Response to Comments**  
**on the**  
**StarKist Samoa, Inc. Draft NPDES Permit**

Comments on the draft permit were submitted by gdc on behalf of StarKist Samoa, Inc. (herein referred to as "StarKist Samoa") on January 31, 2008.

1. gdc comment on the cover of the draft permit: *"The latitude and longitude of the discharge appear to be based on old information and datum (NAD 27-Preliminary). In addition, latitude is entered incorrectly in the permit as 13° and should be 14°. We request the correct specification (based on the more recent WGS 84 datum) be used:*

*Outfall Latitude: S 14° 16.824' and Outfall Longitude: W 170° 40.133'.*

*This would update the location to the datum specifications currently in use. This location was measured at the blind flange (end gate) end of the diffuser by Associated Underwater Services in 2007 during outfall maintenance work."*

EPA response: EPA appreciates gdc's effort to provide EPA with the most accurate and current information on the description of the Joint Cannery Outfall. Therefore, EPA has revised the draft permit accordingly to reflect the actual position of the discharge location.

2. gdc comment on Part I.A Table 1 of the draft permit: *"We request that the limitation for pH be amended to include the following (which could be added to Part I.B).*

*The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.*

*This is consistent with the existing permit and provides required flexibility in the pH control process. It is noted that the high dilutions achieved by the diffuser will limit any excursions in the receiving water to an extremely small region."*

EPA response: Since continuous monitoring of pH in the effluent is a condition of the draft permit and that the facility provides wastewater treatment for pH, EPA believes that excursions may be permitted subject to the following limitations:

"The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes."

EPA's review of pH concentrations in the receiving water near the outfall show pH conditions that are within the pH range defined by ASWQS for Pago Pago Harbor. Therefore, EPA has revised the draft permit accordingly to Part I.A Table 1 of the draft permit to reflect this change.

3. gdc comment on Part I.A Table 1 of the draft permit: *"We note that the units for the limitations stated as loading are not in the table but appear to be, and should, be lbs/day. We also note that the table of limitations includes limitations for the existing permit which should be removed in the new final permit."*

EPA response: EPA appreciates gdc's effort to ensure that the permit accurately reflects the correct units for effluent limitations. EPA has determined a computer error resulted in some units being removed from the Table 1. EPA has corrected this error and the table now describes all units for effluent limitations. Also, EPA concurs that *"Existing Permit Effluent Limitations"* be removed from Table 1 of Part I.A in the draft permit. EPA has revised the draft permit accordingly to reflect this change.

4. gdc comment on Part I.B.5 of the draft permit: *"We request that this limitation be stated as: The discharge shall not causes the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes **outside of the zone of initial dilution**;*

*This would provide consistency with the existing permit and with the limitations for temperature as stated in Table 1 ."*

EPA response: Comment noted. The discharge prohibition for temperature is based on section 240206(e) of ASWQS that includes narrative water quality standards that apply to all American Samoa waters whether at or near the discharge point, unless otherwise a zone of mixing is authorized for temperature. Currently, EPA is unaware of an authorized mixing zone for temperature for StarKist Samoa. In accordance with ASWQS, EPA believes that narrative standards shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within a zone of mixing (section 24.0207 of ASWQS). Furthermore, the draft permit establishes temperature effluent limitations that consider cooling effects prior to discharging effluent into the receiving water. EPA believes that this "cooling effect" allows the discharge to meet the discharge prohibition, as written in the draft permit. Therefore, EPA believes that the water quality criterion for temperature has been correctly reflected in the draft permit and has determined no correction to Part I.B.5 is necessary.

5. gdc comment on Part I.B.6 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version (or as found in the ASWQS for **arsenic and mercury**) outside of the zones of mixing established for copper, zinc, ammonia, and mercury;*

*This would provide consistency with the limitations for specific constituents as stated in Table 1."*

EPA response: EPA concurs that the discharge prohibition for compliance with the narrative

water quality standard for toxicity could be clearer. Part I.B.6 of the draft permit has been revised as follows:

"The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury, and ammonia."

6. gdc comment on Part I.B.7 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units outside the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: Comment noted. The discharge prohibition for turbidity is based on section 240206(m) of ASWQS that applies specifically to Pago Pago Harbor, in its entirety, unless otherwise authorized a zone of mixing for turbidity. Currently, EPA is unaware of an authorized mixing zone for turbidity. In accordance with ASWQS, EPA believes that water quality standards for Pago Pago Harbor shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within the zone of mixing. Furthermore, while TSS can cause turbidity in the receiving water, there are no water quality standards for TSS for Pago Pago Harbor. Instead, effluent limitations for TSS in the draft permit are based on federally promulgated effluent limitation guidelines. Therefore, the mixing zone provision under ASWQS is not applicable. Consequently, EPA believes that the criterion for turbidity has been correctly reflected in the draft permit and has determined no correction to Part I.B.7 is necessary.

However, should a mixing zone for turbidity be authorized pursuant to ASWQS to reflect the application of the turbidity criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units at and beyond the zone of initial dilution."

7. gdc comment on Part I.B.8 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) outside of the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for light penetration be authorized pursuant to ASWQS to reflect the application of the light penetration criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) **at and beyond the zone of initial dilution.**"

8. gdc comment on Part I.B.9 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l **outside of the zone of initial dilution.** If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.*

*This would provide consistency with the existing permit and with the limitations for BOD as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for dissolved oxygen be authorized pursuant to ASWQS to reflect the application of the dissolved oxygen criteria at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l **at and beyond the zone of initial dilution.** If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard."

9. gdc comment on Part II.A.1.a of the draft permit: *"We note that it is required that samples and measurements shall be "representative." We interpret that as meaning samples for effluent monitoring should be taken during normal operations on production days. If this is not the case we request clarification."*

EPA response: EPA appreciates gdc's request for clarification on the term "representative" as it relates to effluent sampling. EPA concurs that effluent monitoring shall be conducted during normal operations on production days. Therefore, EPA has revised the draft permit accordingly to provide clarification on sampling procedures that are representative of the facility's discharge. Part II.A.1.a of the draft permit has been revised as follows:

"Sample and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after in-plant return flows and the final treatment process and before mixing with the receiving waters. **All effluent samples shall be taken during normal operations on production days.**"

10. gdc comment on Part II.A.3.d of the draft permit: *"It is not clear how the 'records of monitoring information' are to be reported. Please clarify if these are to be submitted with DMR forms."*

EPA response: All records of monitoring information shall be submitted with the DMR forms.

11. gdc comment on Part II.B.1 of the draft permit: *"We request that the priority pollutant scan be conducted during the latter half of **fourth year** or the fifth year of the permit.*

*This will provide flexibility to coordinate the required sampling with other monitoring requirements and insure that the data are available for the permit renewal deadline."*

EPA response: Due to the remote location of the facility, EPA understands the need to coordinate sample collection and analysis for toxic pollutants. Therefore, EPA has revised the draft permit accordingly to extend the period for when priority pollutant analysis is required. Part II.B.1 of the draft permit has been revised as follows:

"In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the ~~fourth or~~ fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards."

12. gdc comment on Part V.A.2.a of the draft permit: *"This special condition requires a workplan be submitted to EPA and ASEPA 'no later than one year after the effective date of the permit.' However, Table 2 requires the workplan no later than 180 days following the effective date of the permit. Because the first of the specifications noted was emphasized in bold font in the draft permit, we believe the one year date is EPA's intention. We request that Table 2 be corrected to require the workplan within one year of the effective date of the permit."*

EPA response: EPA concurs that the workplan for the Pollutant Minimization Plan shall be submitted to EPA no later than one year after the effective date of the permit. Table 2 of Part V has been revised accordingly to reflect this oversight.

13. gdc comment on Part V.B.1.a.iv of the draft permit: *"We note that this item is redundant since it is also required in Item vii."*

EPA response: EPA concurs that the monitoring of light penetration and dissolved oxygen at the zone of initial dilution, as described in Part V.B.1.a.iv, are also described in Part V.B.1.a.vii. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements. Part V.B.1.a.iv of the draft permit has been deleted and the section has been re-numbered to reflect this change

14. gdc comment on Part V.B.1.a.vii of the draft permit: *"We request that this item be changed as indicated below.*

*All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, ~~light penetration~~, and dissolved oxygen, and **light penetration at 65 feet**, to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.*

*This would be consistent with the ASWQS for light penetration. It is noted that the light meters being used, and other commercially available instruments appropriate for use in Pago Pago Harbor, have a depth limit that would preclude full vertical profiles at depths found in the Harbor."*

EPA response: EPA concurs that vertical profiles of light penetration are not appropriate for monitoring light penetration in the receiving water. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements for light penetration. Part V.B.1.a.vii (now Part V.B.1.a.vi in the final permit as described in comment #13) of the draft permit has been revised as follows:

" All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, and dissolved oxygen, and light penetration at 65 feet, to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

15. gdc comment on Part V.C.1.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

16. gdc comment on Part V.C.1.b of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

17. gdc comment on Part V.C.2.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

18. gdc comment on Part V.D.1.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

19. gdc comment on Part V.D.1.b of the draft permit: *"The two references to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

20. gdc comment on Part V.D.1.d of the draft permit: *"The reference to COS Samoa Packing . should be StarKist Samoa, Inc."*

EPA response: EPA concurs and will make the requested change to the draft permit.



21. gdc comment on Part V.D.1.f of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

22. gdc comment on Part V.D.1.g of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

23. gdc comment on Part V.D.1.h of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

24. gdc comment on Part V.D.2.d of the draft permit: *"Please clarify the time within which re-sampling and re-testing must occur. Should this be interpreted as re-sampling within 14 days of receiving the test results from the laboratory?"*

EPA response: When the permittee determines that a toxicity test does not meet the test acceptability criteria, EPA requires in the draft permit that the permittee re-sample the effluent and begin re-testing the re-sample within 14 days.

25. gdc comment identifying miscellaneous typographical errors in the draft permit: *"Page 3 of 21 - paragraph 1: ...maintain compliance all effluent....should be...maintain compliance with all effluent..."*

*"Page 20 of 21 - paragraph 1: 10n should be 10" and 101 should be 10<sup>1</sup>"*

EPA response: EPA concurs and has made the requested changes to the draft permit.

26. gdc general comment on the draft permit: *"We would like to note that meeting specific holding times for samples shipped to mainland laboratories is often difficult and occasionally impossible using commercially available shipping methods. This occurs because the only commercial flights going east (from American Samoa to Honolulu and then to the U.S.) currently leave on Sunday and Thursday. Since normal production days for representative samples are typically from noon Monday through noon Friday, samples must be shipped on Thursday. The only express shipper is DHL. Shipments will arrive in Honolulu on Friday morning and will not generally clear customs until Friday afternoon. They will therefore not leave Honolulu until Monday under normal circumstances. Therefore, Tuesday delivery is the soonest delivery will be made, and experience indicates it is often later. This also means that sample temperatures may be above the prescribed holding temperatures. COS Samoa will make reasonable efforts to meet holding times and temperature requirements, but we anticipate that there will be instances that this will not be possible. In such cases laboratories will be instructed to run the required analyses and holding time and temperature exceedances will be noted in the laboratory reports."*

EPA response: EPA appreciates gdc's description of the infrequent flights from American Samoa to Hawaii and the mainland and recognizes the difficulty that StarKist Samoa may have in meeting toxicity method holding requirements because of them. However, on November 8, 2007, EPA granted gdc's request for a variance from the 36-hour whole effluent toxicity sample holding time for effluents collected from the StarKist Samoa facility. The variance is in effect for the next permit cycle and allows for an extension of the 36-hour holding time requirement to 72 hours, which is the maximum allowable under federal regulations before the sample must be tested. It is the permittee's responsibility to ensure its contract laboratory meets the requirements of toxicity test methods, including those under which a variance has been granted, and properly follows QA/QC procedures and reports accordingly.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Certified Mail : 7006 0100 0002 4269 6483  
Return Receipt Requested

**FEB 19 2008**

Mr. Steve Costa  
gdc  
P.O. Box 1238  
Trinidad, CA 95570

**RE: RESPONSE TO COMMENTS ON DRAFT NPDES PERMIT FOR COS SAMOA  
PACKING COMPANY INC. FACILITY, NPDES NO. AS0000027**

Dear Mr. Costa:

U.S. Environmental Protection Agency ("EPA") has received your comments on the Draft National Pollutant Discharge Elimination System ("NPDES") permit, NPDES No. AS0000027, for the COS Samoa Packing Company, Inc. facility located on the island of Tutuila in American Samoa. You submitted comments on behalf of COS Samoa Packing Company, Inc. that were dated January 30, 2008, and were received electronically by EPA within the 30-day public comment period on January 31, 2008. The public comment period was from January 9 to February 7, 2008.

Pursuant to 40 CFR 124.17(a)(2), EPA is required to respond to all significant comments on the draft permit raised during the public comment period. Enclosed is EPA's response to gdc's comments on behalf of COS Samoa Packing Company, Inc. No other public comments were received on the Draft NPDES Permit for COS Samoa Packing Company Inc.'s facility.

If you have any questions regarding our response to these comments, please contact Mr. Carl Goldstein of the Pacific Islands Office by telephone at (415) 972-9767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,

Doug Eberhardt, Chief  
CWA Standards and Permits Office

Enclosure

cc: Director, American Samoa EPA  
Mr. Willem Martins, COS Samoa Packing Company, Inc.

**U.S. Environmental Protection Agency, Region IX**  
**Response to Comments**  
**on the**  
**COS Samoa Packing Company Inc.**  
**Draft NPDES Permit**

Comments on the draft permit were submitted by gdc on behalf of COS Samoa Packing Company, Inc. (herein referred to as "COS Samoa") on January 31, 2008.

1. gdc comment on the cover of the draft permit: *"The latitude and longitude of the discharge appear to be based on old information and datum (NAD 27-Preliminary). In addition, latitude is entered incorrectly in the permit as 13° and should be 14°. We request the correct specification (based on the more recent WGS 84 datum) be used:*

*Outfall Latitude: S 14° 16.824' and Outfall Longitude: W 170° 40.133'.*

*This would update the location to the datum specifications currently in use. This location was measured at the blind flange (end gate) end of the diffuser by Associated Underwater Services in 2007 during outfall maintenance work."*

EPA response: EPA appreciates gdc's effort to provide EPA with the most accurate and current information on the description of the Joint Cannery Outfall. Therefore, EPA has revised the draft permit accordingly to reflect the actual position of the discharge location.

2. gdc comment on Part I.A Table 1 of the draft permit: *"We request that the limitation for pH be amended to include the following (which could be added to Part I.B).*

*The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.*

*This is consistent with the existing permit and provides required flexibility in the pH control process. It is noted that the high dilutions achieved by the diffuser will limit any excursions in the receiving water to an extremely small region."*

EPA response: Since continuous monitoring of pH in the effluent is a condition of the draft permit and that the facility provides wastewater treatment for pH, EPA believes that excursions may be permitted subject to the following limitations:

*"The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes."*

EPA's review of pH concentrations in the receiving water near the outfall show pH conditions that are within the pH range defined by ASWQS for Pago Pago Harbor. Therefore, EPA has revised the draft permit accordingly to Part I.A Table 1 of the draft permit to reflect this change.

3. gdc comment on Part I.A Table 1 of the draft permit: *"We note that the units for the limitations stated as loading are not in the table but appear to be, and should be, lbs/day. We also note that the table of limitations includes limitations for the existing permit which should be removed in the new final permit."*

EPA response: EPA appreciates gdc's effort to ensure that the permit accurately reflects the correct units for effluent limitations. EPA has determined a computer error resulted in some units being removed from the Table 1. EPA has corrected this error and the table now describes all units for effluent limitations. Also, EPA concurs that *"Existing Permit Effluent Limitations"* be removed from Table 1 of Part I.A in the draft permit. EPA has revised the draft permit accordingly to reflect this change.

4. gdc comment on Part I.B.5 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes outside of the zone of initial dilution;"*

*This would provide consistency with the existing permit and with the limitations for temperature as stated in Table 1."*

EPA response: Comment noted. The discharge prohibition for temperature is based on section 240206(e) of ASWQS that includes narrative water quality standards that apply to all American Samoa waters whether at or near the discharge point, unless otherwise a zone of mixing is authorized for temperature. Currently, EPA is unaware of an authorized mixing zone for temperature for COS Samoa. In accordance with ASWQS, EPA believes that narrative standards shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within a zone of mixing (section 24.0207 of ASWQS). Furthermore, the draft permit establishes temperature effluent limitations that consider cooling effects prior to discharging effluent into the receiving water. EPA believes that this "cooling effect" allows the discharge to meet the discharge prohibition, as written in the draft permit. Therefore, EPA believes that the water quality criterion for temperature has been correctly reflected in the draft permit and has determined no correction to Part I.B.5 is necessary.

5. gdc comment on Part I.B.6 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version (or as found in the ASWQS for arsenic and mercury) outside of the zones of mixing established for copper, zinc, ammonia, and mercury;"*

*This would provide consistency with the limitations for specific constituents as stated in Table 1."*

EPA response: EPA concurs that the discharge prohibition for compliance with the narrative water quality standard for toxicity could be clearer. Part I.B.6 of the draft permit has been revised as follows:

"The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury, and ammonia."

6. gdc comment on Part I.B.7 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units outside the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: Comment noted. The discharge prohibition for turbidity is based on section 240206(m) of ASWQS that applies specifically to Pago Pago Harbor, in its entirety, unless otherwise authorized a zone of mixing for turbidity. Currently, EPA is unaware of an authorized mixing zone for turbidity. In accordance with ASWQS, EPA believes that water quality standards for Pago Pago Harbor shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within the zone of mixing. Furthermore, while TSS can cause turbidity in the receiving water, there are no water quality standards for TSS for Pago Pago Harbor. Instead, effluent limitations for TSS in the draft permit are based on federally promulgated effluent limitation guidelines. Therefore, the mixing zone provision under ASWQS is not applicable. Consequently, EPA believes that the criterion for turbidity has been correctly reflected in the draft permit and has determined no correction to Part I.B.7 is necessary.

However, should a mixing zone for turbidity be authorized pursuant to ASWQS to reflect the application of the turbidity criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units ~~at and beyond the zone of initial dilution.~~"

7. gdc comment on Part I.B.8 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) outside of the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for light penetration be authorized pursuant to ASWQS to reflect the application of the light penetration criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) ~~at and beyond the zone of initial dilution.~~"

8. gdc comment on Part I.B.9 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l **outside of the zone of initial dilution.** If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.*

*This would provide consistency with the existing permit and with the limitations for BOD as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for dissolved oxygen be authorized pursuant to ASWQS to reflect the application of the dissolved oxygen criteria at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l ~~at and beyond the zone of initial dilution.~~ If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard."

9. gdc comment on Part II.A.1.a of the draft permit: *"We note that it is required that samples and measurements shall be "representative." We interpret that as meaning samples for effluent monitoring should be taken during normal operations on production days. If this is not the case we request clarification."*

EPA response: EPA appreciates gdc's request for clarification on the term "representative" as it relates to effluent sampling. EPA concurs that effluent monitoring shall be conducted during normal operations on production days. Therefore, EPA has revised the draft permit accordingly to provide clarification on sampling procedures that are representative of the facility's discharge. Part II.A.1.a of the draft permit has been revised as follows:

"Sample and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after in-plant return flows and the final treatment process and before mixing with the receiving waters. ~~All effluent samples shall be taken during normal operations on production days."~~

10. gdc comment on Part II.A.3.d of the draft permit: *"It is not clear how the 'records of monitoring information' are to be reported. Please clarify if these are to be submitted with DMR forms."*

EPA response: All records of monitoring information shall be submitted with the DMR forms.

11. gdc comment on Part II.B.1 of the draft permit: *"We request that the priority pollutant scan be conducted during the latter half of **fourth year** or the fifth year of the permit."*

*This will provide flexibility to coordinate the required sampling with other monitoring requirements and insure that the data are available for the permit renewal deadline."*

EPA response: Due to the remote location of the facility, EPA understands the need to coordinate sample collection and analysis for toxic pollutants. Therefore, EPA has revised the draft permit accordingly to extend the period for when priority pollutant analysis is required. Part II.B.1 of the draft permit has been revised as follows:

*"In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the **fourth or** fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards."*

12. gdc comment on Part V.A.2.a of the draft permit: *"This special condition requires a workplan be submitted to EPA and ASEPA 'no later than one year after the effective date of the permit.' However, Table 2 requires the workplan no later than 180 days following the effective date of the permit. Because the first of the specifications noted was emphasized in bold font in the draft permit, we believe the one year date is EPA's intention. We request that Table 2 be corrected to require the workplan within one year of the effective date of the permit."*

EPA response: EPA concurs that the workplan for the Pollutant Minimization Plan shall be submitted to EPA no later than one year after the effective date of the permit. Table 2 of Part V has been revised accordingly to reflect this oversight.

13. gdc comment on Part V.B.1.a.iv of the draft permit: *"We note that this item is redundant since it is also required in Item vii."*

EPA response: EPA concurs that the monitoring of light penetration and dissolved oxygen at the zone of initial dilution, as described in Part V.B.1.a.iv, are also described in Part V.B.1.a.vii. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements. Part V.B.1.a.iv of the draft permit has been deleted and the section has been re-numbered to reflect this change.



14. gdc comment on Part V.B.1.a.vii of the draft permit: *"We request that this item be changed as indicated below.*

*All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, **light penetration**, and dissolved oxygen, and **light penetration at 65 feet**, to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.*

*This would be consistent with the ASWQS for light penetration. It is noted that the light meters being used, and other commercially available instruments appropriate for use in Pago Pago Harbor, have a depth limit that would preclude full vertical profiles at depths found in the Harbor."*

EPA response: EPA concurs that vertical profiles of light penetration are not appropriate for monitoring light penetration in the receiving water. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements for light penetration. Part V.B.1.a.vii (now Part V.B.1.a.vi in the final permit as described in comment #13) of the draft permit has been revised as follows:

*" All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, and dissolved oxygen, and **light penetration at 65 feet** to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.*

15. gdc comment on Part V.D.2.d of the draft permit: *"Please clarify the time within which re-sampling and re-testing must occur. Should this be interpreted as re-sampling within 14 days of receiving the test results from the laboratory?"*

EPA response: When the permittee determines that a toxicity test does not meet the test acceptability criteria, EPA requires in the draft permit that the permittee re-sample the effluent and begin re-testing the re-sample within 14 days.

16. gdc comment identifying miscellaneous typographical errors in the draft permit:  
*"Page 20 of 21 - paragraph 1: 10n should be 10" and 101 should be 10'"*

EPA response: EPA concurs and has made the requested changes to the draft permit.

17. gdc general comment on the draft permit: *"We would like to note that meeting specific holding times for samples shipped to mainland laboratories is often difficult and occasionally impossible using commercially available shipping methods. This occurs because the only commercial flights going east (from American Samoa to Honolulu and then to the U.S.) currently leave on Sunday and Thursday. Since normal production days for representative samples are typically from noon Monday through noon Friday, samples must be shipped on Thursday. The only express shipper is DHL. Shipments will arrive in Honolulu on Friday morning and will not generally clear customs until Friday afternoon. They will therefore not leave Honolulu until Monday under normal circumstances. Therefore, Tuesday delivery is the*

*soonest delivery will be made, and experience indicates it is often later. This also means that sample temperatures may be above the prescribed holding temperatures. COS Samoa will make reasonable efforts to meet holding times and temperature requirements, but we anticipate that there will be instances that this will not be possible. In such cases laboratories will be instructed to run the required analyses and holding time and temperature exceedances will be noted in the laboratory reports."*

EPA response: EPA appreciates gdc's description of the infrequent flights from American Samoa to Hawaii and the mainland and recognizes the difficulty that COS Samoa may have in meeting toxicity method holding requirements because of them. However, on November 8, 2007, EPA granted gdc's request for a variance from the 36-hour whole effluent toxicity sample holding time for effluents collected from the COS Samoa facility. The variance is in effect for the next permit cycle and allows for an extension of the 36-hour holding time requirement to 72 hours, which is the maximum allowable under federal regulations before the sample must be tested. It is the permittee's responsibility to ensure its contract laboratory meets the requirements of toxicity test methods, including those under which a variance has been granted, and properly follows QA/QC procedures and reports accordingly.



11 February 2008

Fanuatele Dr. T. Vaiaga'e, Director  
American Samoa Environmental Protection Agency  
Utulei Office Building  
P.O. Box PPA  
Pago Pago, AS 96799

**Re: Request for revision of water quality certification and the definition of mixing zones for dissolved oxygen, turbidity, and light penetration for the Joint Cannery Outfall**

StarKist Samoa and COS Samoa Packing (the canneries) discharge treated process wastewater through a common joint cannery outfall (JCO) and high-rate diffuser into the outer portion of Pago Pago Harbor. Seventeen years of monitoring have indicated no environmental degradation resulting from the discharge. The canneries submitted timely applications for the renewal of their respective National Pollution Discharge Elimination System (NPDES) permits (AS0000019 and AS0000027) to the U.S. Environmental Protection Agency (USEPA) in July 2005.

On 28 June 2007 the canneries requested water quality certification (WQC) and the definition of mixing zones from the American Samoa Environmental Protection Agency (ASEPA). The WQC and mixing zone definitions were granted on 12 July 2007. On 29 October 2007, after discussions with USEPA and ASEPA, the canneries requested a modification of the WQC and the definition of a mixing zone to account for chronic levels of ammonia. This request was granted on 18 December 2007.

On 9 January 2008 the USEPA published for public comment Draft NPDES permits and the canneries provided comments on those Draft Permits on 30 January 2008, within the allowable comment period. In the comment letters the canneries requested that the narrative receiving water limitations for dissolved oxygen (DO) and turbidity be specified as in the existing permits: specifically that the water quality standard is to be achieved at the edge of the zone of initial dilution (ZID). In addition, the same language was requested for the limitation on the new narrative limitation on light penetration. The canneries also requested a similar change in permit language for temperature, to reflect language in the existing permit. However, after discussions with USEPA the canneries do not believe this is necessary for temperature because the effluent temperature limitation is based on USEPA's previous finding that cooling of the wastewater through the pipeline will result in compliance at the discharge point in the receiving water.

Discussions with USEPA indicate that to maintain the language in the previous permit, ASEPA must include in the WQC provisions for mixing zones for these parameters. Although this was not done in the past, and therefore was not included in the previous request for WQC by the canneries, it is now a current requirement of USEPA. Therefore, the canneries request a modification of the previously approved WQC and mixing zones for DO, turbidity, and light

<p>P.O. BOX 1238 • 216 DRIFTWOOD LANE • TRINIDAD, CA • 95570 PHONE: 707-677-0123 • FAX: 707-677-9210 EMAIL: GLATZELDACOSTA@SUDDENLINK.NET</p>
---

penetration within the defined zone of initial dilution (critical initial dilution [CID]= 313:1 as applied by USEPA and ASEPA described in previous mixing zone applications). The following information demonstrates the assimilative capacity of the receiving water to support the requested zones of mixing:

**Dissolved oxygen:** There are limited direct measurements of effluent DO; however, an effluent DO of 0.0 mg/l is the reasonably expected critical condition. The water quality criterion is 5.0 mg/l. The ambient background DO required to maintain compliance at the edge of the ZID, for a CID of 313:1, is calculated as:

$$C_A = \frac{CID \cdot C_S - C_E}{CID - 1} = \frac{313 \times 5.0 - 0.0}{312} = 5.016 \text{ mg/l}$$

The ambient DO measured during the Harbor water quality monitoring events is consistently above 5 mg/l. The required excess DO required for a mixing zone (0.016 mg/l) is an order of magnitude smaller than normally accepted measurement accuracy. (It is noted that the water quality standards also require DO levels to be above 70 % of saturation, and this condition is also met based on the typical water temperatures measured in the receiving water.) Based on the above analysis, there is sufficient capacity for a mixing zone for DO. This is supported by previous monitoring, which has shown no effects of the discharge on the receiving water.

**Turbidity:** There are no direct measurements of effluent turbidity. Receiving water turbidity has been measured in various ways during water quality monitoring. *In situ* sensors are not accurate at the low turbidities in the receiving water but are consistently lower than the water quality criterion of 0.75 NTU. Analysis of samples shipped to mainland laboratories have been consistently lower, and typically an order of magnitude lower, than the water quality criterion. However, these samples are not received and analyzed by the laboratory within the accepted holding time. During the last water quality monitoring event, samples were collected and analyzed using a bench top instrument calibrated for low range turbidities with the following results:

Station	5 (Reference)			16 (Farfield)			18 (Farfield)		
Depth (ft)	3	60	120	3	60	120	3	60	120
Turbidity (NTU)	0.1	0.1	ND	0.11	0.39	0.14	0.23	0.24	0.25
ND = below instrument detection level									

Clearly there is assimilative capacity in the receiving water. The maximum allowable effluent turbidity, using the highest value listed above (0.39 NTU) would be:

$$C_E = CID(C_S - C_A) + C_A = 313(0.75 - 0.39) + 0.39 = 113 \text{ NTU}$$

Using the average value from the reference station (Station 5), which follows the general process applied by USEPA in developing permit effluent limitations, the maximum allowable effluent turbidity is:

$$C_E = CID(C_S - C_A) + C_A = 313(0.75 - 0.1) + 0.39 = 204 \text{ NTU}$$

As mentioned above there are no direct measurements of turbidity in the effluent, but visual observation of the combined effluent collected for bioassay testing clearly indicates the effluent turbidity is below 100 NTU. In addition, the routine monitoring in the vicinity of the discharge has not shown any effect of the plume even within the ZID.

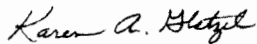
**Light Penetration:** Light penetration is affected by turbidity and suspended material in the water column. As described above, compliance with the turbidity standard is expected at the edge of the ZID. Effluent limitations are included in both permits for total suspended solids and nutrients (thus controlling phytoplankton growth). Therefore, light penetration is expected to meet the criterion at the edge of the ZID. Previous monitoring has demonstrated that light penetration is in compliance with the water quality standards.

Based on the discussion above, we request that ASEPA modify the WQC to allow mixing zones so that the new NPDES permits may provide for meeting the receiving water quality criteria for DO, turbidity, and light penetration at the edge of the ZID. This is consistent with the existing permits and does not provide any relaxation of existing permit conditions.

Your office has been notified by both canneries that **gdc** is authorized to act in their behalf in the request for water quality certification and definition of the mixing zones listed above. If you have any questions or wish to discuss this request please contact **gdc** or contact the canneries directly.

We appreciate your time and attention to this matter,

Sincerely,



Karen A. Glatzel  
Steven L. Costa

Copy to: Carl Goldstein/USEPA; Peter Peshut/ASEPA; Edna Buchan/ASEPA  
Tim Ruby/StarKist; Jim Cox/ COS Samoa Packing;  
Joe Carney/StarKist; Samuel Augspurger /COS Samoa Packing

**U.S. Environmental Protection Agency, Region IX**  
**Response to Comments**  
**on the**  
**StarKist Samoa, Inc. Draft NPDES Permit**

Comments on the draft permit were submitted by gdc on behalf of StarKist Samoa, Inc. (herein referred to as "StarKist Samoa") on January 31, 2008.

1. gdc comment on the cover of the draft permit: *"The latitude and longitude of the discharge appear to be based on old information and datum (NAD 27-Preliminary). In addition, latitude is entered incorrectly in the permit as 13° and should be 14°. We request the correct specification (based on the more recent WGS 84 datum) be used:*

*Outfall Latitude: S 14° 16.824' and Outfall Longitude: W 170° 40.133'.*

*This would update the location to the datum specifications currently in use. This location was measured at the blind flange (end gate) end of the diffuser by Associated Underwater Services in 2007 during outfall maintenance work."*

EPA response: EPA appreciates gdc's effort to provide EPA with the most accurate and current information on the description of the Joint Cannery Outfall. Therefore, EPA has revised the draft permit accordingly to reflect the actual position of the discharge location.

2. gdc comment on Part I.A Table 1 of the draft permit: *"We request that the limitation for pH be amended to include the following (which could be added to Part I.B).*

*The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.*

*This is consistent with the existing permit and provides required flexibility in the pH control process. It is noted that the high dilutions achieved by the diffuser will limit any excursions in the receiving water to an extremely small region."*

EPA response: Since continuous monitoring of pH in the effluent is a condition of the draft permit and that the facility provides wastewater treatment for pH, EPA believes that excursions may be permitted subject to the following limitations:

*"The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes."*

EPA's review of pH concentrations in the receiving water near the outfall show pH conditions that are within the pH range defined by ASWQS for Pago Pago Harbor. Therefore, EPA has revised the draft permit accordingly to Part I.A Table 1 of the draft permit to reflect this change.

3. gdc comment on Part I.A Table 1 of the draft permit: *"We note that the units for the limitations stated as loading are not in the table but appear to be, and should, be lbs/day. We also note that the table of limitations includes limitations for the existing permit which should be removed in the new final permit."*

EPA response: EPA appreciates gdc's effort to ensure that the permit accurately reflects the correct units for effluent limitations. EPA has determined a computer error resulted in some units being removed from the Table 1. EPA has corrected this error and the table now describes all units for effluent limitations. Also, EPA concurs that *"Existing Permit Effluent Limitations"* be removed from Table 1 of Part I.A in the draft permit. EPA has revised the draft permit accordingly to reflect this change.

4. gdc comment on Part I.B.5 of the draft permit: *"We request that this limitation be stated as: The discharge shall not causes the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes outside of the zone of initial dilution;"*

*This would provide consistency with the existing permit and with the limitations for temperature as stated in Table 1."*

EPA response: Comment noted. The discharge prohibition for temperature is based on section 240206(e) of ASWQS that includes narrative water quality standards that apply to all American Samoa waters whether at or near the discharge point, unless otherwise a zone of mixing is authorized for temperature. Currently, EPA is unaware of an authorized mixing zone for temperature for StarKist Samoa. In accordance with ASWQS, EPA believes that narrative standards shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within a zone of mixing (section 24.0207 of ASWQS). Furthermore, the draft permit establishes temperature effluent limitations that consider cooling effects prior to discharging effluent into the receiving water. EPA believes that this "cooling effect" allows the discharge to meet the discharge prohibition, as written in the draft permit. Therefore, EPA believes that the water quality criterion for temperature has been correctly reflected in the draft permit and has determined no correction to Part I.B.5 is necessary.

5. gdc comment on Part I.B.6 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version (or as found in the ASWQS for arsenic and mercury) outside of the zones of mixing established for copper, zinc, ammonia, and mercury;"*

*This would provide consistency with the limitations for specific constituents as stated in Table 1."*

EPA response: EPA concurs that the discharge prohibition for compliance with the narrative



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

Certified Mail: 7006 0100 0002 4269 9538  
Return Receipt Requested

**FEB 19 2008**

Mr. Steve Costa  
gdc  
P.O. Box 1238  
Trinidad, CA 95570

**RE: RESPONSE TO COMMENTS ON DRAFT NPDES PERMIT FOR STARKIST  
SAMOA, INC. FACILITY, NPDES NO. AS0000019**

Dear Mr. Costa:

U.S. Environmental Protection Agency ("EPA") has received your comments on the Draft National Pollutant Discharge Elimination System ("NPDES") permit, NPDES No. AS0000019, for the StarKist Samoa, Inc. facility located on the island of Tutuila in American Samoa. You submitted comments on behalf of StarKist Samoa, Inc. that were dated January 30, 2008, and were received electronically by EPA within the 30-day public comment period on January 31, 2008. The public comment period was from January 9 to February 7, 2008.

Pursuant to 40 CFR 124.17(a)(2), EPA is required to respond to all significant comments on the draft permit raised during the public comment period. Enclosed is EPA's response to gdc's comments on behalf of StarKist Samoa, Inc. No other public comments were received on the Draft NPDES Permit for StarKist Samoa, Inc.'s facility.

If you have any questions regarding our response to these comments, please contact Mr. Carl Goldstein of the Pacific Islands Office by telephone at (415) 972-9767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,

Doug Eberhardt, Chief  
CWA Standards and Permits Office

Enclosure

cc: Director, American Samoa EPA  
Mr. Brett Butler, StarKist Samoa, Inc.



water quality standard for toxicity could be clearer. Part I.B.6 of the draft permit has been revised as follows:

"The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version, and section 24.0206 of ASWQS for arsenic and mercury, or outside the zones of mixing established for copper, zinc, mercury, and ammonia."

6. gdc comment on Part I.B.7 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units outside the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: Comment noted. The discharge prohibition for turbidity is based on section 240206(m) of ASWQS that applies specifically to Pago Pago Harbor, in its entirety, unless otherwise authorized a zone of mixing for turbidity. Currently, EPA is unaware of an authorized mixing zone for turbidity. In accordance with ASWQS, EPA believes that water quality standards for Pago Pago Harbor shall be applied at the discharge point unless a mixing zone is authorized by American Samoa to contain alternate standards within the zone of mixing. Furthermore, while TSS can cause turbidity in the receiving water, there are no water quality standards for TSS for Pago Pago Harbor. Instead, effluent limitations for TSS in the draft permit are based on federally promulgated effluent limitation guidelines. Therefore, the mixing zone provision under ASWQS is not applicable. Consequently, EPA believes that the criterion for turbidity has been correctly reflected in the draft permit and has determined no correction to Part I.B.7 is necessary.

However, should a mixing zone for turbidity be authorized pursuant to ASWQS to reflect the application of the turbidity criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units ~~at and beyond the zone of initial dilution.~~"

7. gdc comment on Part I.B.8 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) outside of the zone of initial dilution;*

*This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for light penetration be authorized pursuant to ASWQS to reflect the application of the light penetration criterion at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) ~~at and beyond the zone of initial dilution.~~"

8. gdc comment on Part I.B.9 of the draft permit: *"We request that this limitation be stated as: The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l **outside of the zone of initial dilution.** If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.*

*This would provide consistency with the existing permit and with the limitations for BOD as stated in Table 1."*

EPA response: See response to comment #6.

However, should a mixing zone for dissolved oxygen be authorized pursuant to ASWQS to reflect the application of the dissolved oxygen criteria at and beyond the zone of initial dilution, the draft permit will be revised to include the following:

"The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l ~~at and beyond the zone of initial dilution.~~ If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard."

9. gdc comment on Part II.A.1.a of the draft permit: *"We note that it is required that samples and measurements shall be "representative." We interpret that as meaning samples for effluent monitoring should be taken during normal operations on production days. If this is not the case we request clarification."*

EPA response: EPA appreciates gdc's request for clarification on the term "representative" as it relates to effluent sampling. EPA concurs that effluent monitoring shall be conducted during normal operations on production days. Therefore, EPA has revised the draft permit accordingly to provide clarification on sampling procedures that are representative of the facility's discharge. Part II.A.1.a of the draft permit has been revised as follows:

"Sample and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after in-plant return flows and the final treatment process and before mixing with the receiving waters. ~~All effluent samples shall be taken during normal operations on production days.~~"

10. gdc comment on Part II.A.3.d of the draft permit: *"It is not clear how the 'records of monitoring information' are to be reported. Please clarify if these are to be submitted with DMR forms."*

EPA response: All records of monitoring information shall be submitted with the DMR forms.

11. gdc comment on Part II.B.1 of the draft permit: *"We request that the priority pollutant scan be conducted during the latter half of **fourth year** or the fifth year of the permit.*

*This will provide flexibility to coordinate the required sampling with other monitoring requirements and insure that the data are available for the permit renewal deadline."*

EPA response: Due to the remote location of the facility, EPA understands the need to coordinate sample collection and analysis for toxic pollutants. Therefore, EPA has revised the draft permit accordingly to extend the period for when priority pollutant analysis is required. Part II.B.1 of the draft permit has been revised as follows:

"In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the ~~fourth~~ fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards."

12. gdc comment on Part V.A.2.a of the draft permit: *"This special condition requires a workplan be submitted to EPA and ASEPA 'no later than one year after the effective date of the permit.' However, Table 2 requires the workplan no later than 180 days following the effective date of the permit. Because the first of the specifications noted was emphasized in bold font in the draft permit, we believe the one year date is EPA's intention. We request that Table 2 be corrected to require the workplan within one year of the effective date of the permit."*

EPA response: EPA concurs that the workplan for the Pollutant Minimization Plan shall be submitted to EPA no later than one year after the effective date of the permit. Table 2 of Part V has been revised accordingly to reflect this oversight.

13. gdc comment on Part V.B.1.a.iv of the draft permit: *"We note that this item is redundant since it is also required in Item vii."*

EPA response: EPA concurs that the monitoring of light penetration and dissolved oxygen at the zone of initial dilution, as described in Part V.B.1.a.iv, are also described in Part V.B.1.a.vii. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements. Part V.B.1.a.iv of the draft permit has been deleted and the section has been re-numbered to reflect this change

14. gdc comment on Part V.B.1.a.vii of the draft permit: *"We request that this item be changed as indicated below.*

*All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, ~~light penetration~~, and dissolved oxygen, and **light penetration at 65 feet**, to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.*

*This would be consistent with the ASWQS for light penetration. It is noted that the light meters being used, and other commercially available instruments appropriate for use in Pago Pago Harbor, have a depth limit that would preclude full vertical profiles at depths found in the Harbor."*

EPA response: EPA concurs that vertical profiles of light penetration are not appropriate for monitoring light penetration in the receiving water. Therefore, EPA has revised the draft permit accordingly to provide clarification on receiving water monitoring requirements for light penetration. Part V.B.1.a.vii (now Part V.B.1.a.vi in the final permit as described in comment #13) of the draft permit has been revised as follows:

" All stations at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, and dissolved oxygen, ~~and light penetration at 65 feet~~ to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

15. gdc comment on Part V.C.1.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

16. gdc comment on Part V.C.1.b of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

17. gdc comment on Part V.C.2.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

18. gdc comment on Part V.D.1.a of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

19. gdc comment on Part V.D.1.b of the draft permit: *"The two references to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

20. gdc comment on Part V.D.1.d of the draft permit: *"The reference to COS Samoa Packing . should be StarKist Samoa, Inc."*

EPA response: EPA concurs and will make the requested change to the draft permit.

21. gdc comment on Part V.D.1.f of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

22. gdc comment on Part V.D.1.g of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

23. gdc comment on Part V.D.1.h of the draft permit: *"The reference to StarKist Samoa, Inc. should be COS Samoa Packing."*

EPA response: EPA concurs and will make the requested change to the draft permit.

24. gdc comment on Part V.D.2.d of the draft permit: *"Please clarify the time within which re-sampling and re-testing must occur. Should this be interpreted as re-sampling within 14 days of receiving the test results from the laboratory?"*

EPA response: When the permittee determines that a toxicity test does not meet the test acceptability criteria, EPA requires in the draft permit that the permittee re-sample the effluent and begin re-testing the re-sample within 14 days.

25. gdc comment identifying miscellaneous typographical errors in the draft permit:  
*"Page 3 of 21 - paragraph 1: ...maintain compliance all effluent....should be...maintain compliance with all effluent..."*

*"Page 20 of 21 - paragraph 1: 10n should be 10" and 101 should be 10<sup>1</sup>"*

EPA response: EPA concurs and has made the requested changes to the draft permit.

26. gdc general comment on the draft permit: *"We would like to note that meeting specific holding times for samples shipped to mainland laboratories is often difficult and occasionally impossible using commercially available shipping methods. This occurs because the only commercial flights going east (from American Samoa to Honolulu and then to the U.S.) currently leave on Sunday and Thursday. Since normal production days for representative samples are typically from noon Monday through noon Friday, samples must be shipped on Thursday. The only express shipper is DHL. Shipments will arrive in Honolulu on Friday morning and will not generally clear customs until Friday afternoon. They will therefore not leave Honolulu until Monday under normal circumstances. Therefore, Tuesday delivery is the soonest delivery will be made, and experience indicates it is often later. This also means that sample temperatures may be above the prescribed holding temperatures. COS Samoa will make reasonable efforts to meet holding times and temperature requirements, but we anticipate that there will be instances that this will not be possible. In such cases laboratories will be instructed to run the required analyses and holding time and temperature exceedances will be noted in the laboratory reports."*

EPA response: EPA appreciates gdc's description of the infrequent flights from American Samoa to Hawaii and the mainland and recognizes the difficulty that StarKist Samoa may have in meeting toxicity method holding requirements because of them. However, on November 8, 2007, EPA granted gdc's request for a variance from the 36-hour whole effluent toxicity sample holding time for effluents collected from the StarKist Samoa facility. The variance is in effect for the next permit cycle and allows for an extension of the 36-hour holding time requirement to 72 hours, which is the maximum allowable under federal regulations before the sample must be tested. It is the permittee's responsibility to ensure its contract laboratory meets the requirements of toxicity test methods, including those under which a variance has been granted, and properly follows QA/QC procedures and reports accordingly.



---

---

COASTAL ENVIRONMENTAL ANALYSTS

30 January 2008

Regional Administrator  
EPA Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Certified Mail: 7006 0100 0003 7643 3275

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

Certified Mail: 7006 0100 0003 7643 3282

**RE: Comments on the StarKist Samoa, Inc Draft NPDES Permit (AS0000019)**

At the request and on behalf of StarKist Samoa we have reviewed, and are submitting, the following comments on the draft permit issued by the U.S. Environmental Protection Agency – Region 9 (EPA):

**Comment 1: Cover**

The latitude and longitude of the discharge appear to be based on old information and datum (NAD 27-Preliminary). In addition the Latitude is entered incorrectly in the permit as 13° and should be 14°. We request the correct specification (based on the more recent WGS 84 datum) be used:

***Outfall Latitude: S 14° 16.824' and Outfall Longitude: W 170° 40.133'.***

This would update the location to the datum specification currently in use. This location was measured at the blind flange (end gate) end of the diffuser by Associated Underwater Services in 2007 during outfall maintenance work.

**Comment 2: Part I.A Table 1**

We request that the limitation for pH be amended to include the following (which could be added to Part I.B.

***The pH is limited between 6.5 and 8.6 standard units. The total time during which the pH values are outside the required range of pH shall not exceed 7 hours and 26 minutes in any calendar month; and no individual excursions from the range of pH values shall exceed 60 minutes.***

This is consistent with the existing permit and provides required flexibility in the pH control process. It is noted that the high dilutions achieved by the diffuser will limit any excursions in the receiving water to an extremely small region.

<p>P.O. BOX 1238 • 216 DRIFTWOOD LANE • TRINIDAD, CA • 95570 PHONE: 707-677-0123 • FAX: 707-677-9210 EMAIL: GLATZELDACOSTA@SUDDENLINK.NET</p>
---

**Comment 3: Part I.A Table 1**

We note that the units for the limitations stated as loading are not in the table but appear to be, and should be, lbs/day.

**Comment 4: Part I.B.5**

We request that this limitation be stated as: The discharge shall not cause the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes *outside of the zone of initial dilution*;

This would provide consistency with the existing permit and with the limitations for temperature as stated in Table 1.

**Comment 5: Part I.B.6**

We request that this limitation be stated as: The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version *(or as found in the ASWQS for arsenic and mercury) outside of the zones of mixing established for copper, zinc, ammonia, and mercury*;

This would provide consistency with the limitations for specific constituents as stated in Table 1.

**Comment 6: Part I.B.7**

We request that this limitation be stated as: The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units *outside of the zone of initial dilution*;

This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1.

**Comment 7: Part I.B.8**

We request that this limitation be stated as: The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time) *outside of the zone of initial dilution*;

This would provide consistency with the existing permit and with the limitations for TSS as stated in Table 1.

**Comment 8: Part I.B.9**

We request that this limitation be stated as: The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l *outside of the zone of initial dilution*. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.



This would provide consistency with the existing permit and with the limitations for **BOD** as stated in Table 1.

**Comment 9: Part II.A.1.a**

We note that it is required that samples and measurements shall be “representative”. We interpret that as meaning samples for effluent monitoring should be taken during normal operations on production days. If this is not the case we request clarification.

**Comment 10: Part II.A.3.d**

It is not clear how the “records of monitoring information” are to be reported. Please clarify if these are to be submitted with the DMR forms.

**Comment 11: Part II.B.1**

We request that the priority pollutant scan be conducted during the latter half of *fourth year* or the fifth year of the permit.

This will provide flexibility to coordinate the required sampling with other monitoring requirements and insure that the data are available for the permit renewal deadline.

**Comment 12: Part V.A.2.a**

The special condition requires a workplan be submitted to EPA and AS EPA “no later than one year after the effective date of the permit”. However Table 2 requires the workplan no later than 180 days following the effective date of the permit. Because the first of the specifications noted was emphasized in bold font in the draft permit, we believe the one year date is EPA’s intention. We request that Table 2 be corrected to require the workplan within one year of the effective data of the permit.

**Comment 13: Part V.B.1.a.iv**

We note that this item is redundant since it is also required in Item vii.

**Comment 14: Part V.B.1.a.vii**

We request that this item be changed as indicated below.

**All stations** at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, ~~light penetration~~, and dissolved oxygen, *and light penetration at 65 feet*, to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

This would be consistent with the ASWQS for light penetration. It is noted that the light meters being used, and other commercially available instruments appropriate for use in Pago Pago Harbor, have a depth limits that would preclude full vertical profiles at the depths found in the Harbor.

**Comment 15: Part V.C.1.a**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 16: Part V.C.1.b**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 17: Part V.C.2.a**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 18: Part V.D.1.a**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 19: Part V.D.1.b**

The two references to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 20: Part V.D.1.d**

The reference to COS Samoa Packing should be StarKist Samoa, Inc

**Comment 21: Part V.D.1.f**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 22: Part V.D.1.g**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 23: Part V.D.1.h**

The reference to StarKist Samoa, Inc should be COS Samoa Packing

**Comment 24: Part V.D.2.d**

Please clarify the time within which re-sampling and re-testing must occur. Should this be interpreted as re-sampling within 14 days of receiving the test results from the laboratory?

**Comment 25: Miscellaneous typographical errors**

Page 3 of 21 – paragraph 1: ...maintain compliance all effluent... should be  
...maintain compliance with all effluent....

Page 20 of 21 - paragraph 1: 10<sup>n</sup> should be 10<sup>m</sup> and 10<sup>1</sup> should be 10<sup>1</sup>

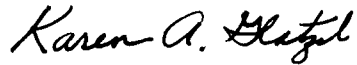
**Comment 26: General Comments**

We would like to note that meeting specific holding times for samples shipped to mainland laboratories is often difficult and occasionally impossible using commercially available shipping methods. This occurs because the only commercial flights going east (from American Samoa to Honolulu and then to the U.S.) currently leave on Sunday and Thursday. Since normal production days for prehensile samples are typically from noon Monday through noon Friday, samples must be shipped on Thursday. The only express shipper is DHL. Shipments will arrive in Honolulu on Friday morning and will not generally clear customs until Friday afternoon. They will therefore not leave Honolulu until Monday under normal circumstances. Therefore, Tuesday delivery is the soonest delivery will be made, and experience indicates it is often later. This also means that sample temperatures may be above the prescribed holding temperatures. StarKist Samoa will make

reasonable efforts to meet holding times and temperature requirements, but we anticipate that there will be instances that this will not be possible. In such cases laboratories will be instructed to run the required analyses and holding time and temperature exceedances will be noted in the laboratory reports.

Thank you for your consideration of the comments provided above. If you have any questions please contact StarKist Samoa directly or contact us at your convenience,

Sincerely

A handwritten signature in black ink that reads "Karen A. Glatzel". The script is cursive and fluid, with the first name "Karen" being the most prominent part of the signature.

Karen A. Glatzel



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

JAN 07 2008

Mr. Brett B. Butler  
StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

RE: Draft Fact Sheet and Permit for StarKist Samoa, Inc.,  
NPDES Permit No. AS0000019

Dear Mr. Butler:

Please find enclosed a copy of a fact sheet and draft permit for the proposed action to reissue the National Pollutant Discharge Elimination System ("NPDES") permit for:

StarKist Samoa, Inc.,  
Atu'u, Maoputasi  
American Samoa 96799.

The public comment period is from January 9 to February 7, 2008. Comments on the proposed action, or a request for a public hearing pursuant to 40 CFR 124.12, may be submitted to the addresses listed within 30 days following the initial date of the public notice. All persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period on February 7, 2008. In accordance with 40 CFR 124.12, the EPA Director shall hold a public hearing whenever she finds, on the basis of requests, a significant degree of public interest in a draft permit. The EPA Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10. Comments on the draft permit may be submitted either in person or mailed to:

Regional Administrator  
EPA - Region IX  
Pacific Islands Office  
75 Hawthorne Street  
San Francisco, California 94105

2008 Jan 13 10:00 AM

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

All comments received by the end of the public comment period shall be considered in making the final permit decision.

If you have any questions regarding the draft permit or permitting process, please contact Mr. Carl Goldstein by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Doug Eberhardt", with a stylized flourish at the end.

Doug Eberhardt, Chief  
Clean Water Act Standards and Permits Office

Enclosures (2)

cc: Mr. Peter Peshut, ASEPA (via E-mail)  
Mr. Steve Costa, gdc (via E-mail)  
Mr. Patrick Leonard, USFWS  
Mr. Chris Yates, NMFS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION IX  
75 Hawthorne Street  
San Francisco, CA 94105

**AUTHORIZATION TO DISCHARGE UNDER THE  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

**NPDES PERMIT NO. AS0000019**

In compliance with the provisions of the Clean Water Act ("CWA") (Public Law 92-500, as amended, 33 U.S.C. 1251 et seq.), the following discharger is authorized to discharge from the identified facility at the outfall location(s) specified below, in accordance with the effluent limits, monitoring requirements, and other conditions set forth in this permit:

<b>Discharger Name</b>	StarKist Samoa, Inc.
<b>Discharger Address</b>	P.O. Box 368
	Pago Pago, Tutuila
	American Samoa 96799
<b>Facility Name</b>	StarKist Samoa, Inc.
<b>Facility Address</b>	Atu'u, Maoputasi
	American Samoa 96799
<b>Facility Rating</b>	Major

<b>Outfall Number</b>	<b>General Type of Waste Discharged</b>	<b>Outfall Latitude</b>	<b>Outfall Longitude</b>	<b>Receiving Water</b>
001	Industrial Wastewater	13°17'01"S	170°40'02"W	Pago Pago Harbor

<b>This permit was issued on:</b>	
<b>This permit shall become effective on:</b>	
<b>This permit shall expire at midnight on:</b>	
<b>In accordance with 40 CFR 122.21(d), the discharger shall submit a new application for a permit at least 180 days before the expiration date of this permit, unless permission for a date no later than the permit expiration date has been granted by the Director.</b>	

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2008, for the Regional Administrator.

\_\_\_\_\_  
Alexis Strauss, Director  
Water Division

## Table of Contents

PART I - EFFLUENT LIMITATIONS.....	3
PART II - MONITORING AND REPORTING REQUIREMENTS .....	5
A. Effluent Monitoring and Reporting .....	5
1. Effluent Sampling.....	5
2. Effluent Analysis .....	5
3. Effluent Quality Reporting .....	6
4. Quality Assurance.....	7
B. Priority Toxic Pollutants Scan .....	8
C. Twenty-four Hour Reporting of Noncompliance.....	8
PART III - REOPENER PROVISIONS.....	9
PART IV - STANDARD CONDITIONS .....	9
PART V - SPECIAL CONDITIONS .....	9
A. Best Management Practices and Pollution Prevention .....	9
1. Pollution Prevention Program.....	9
2. Pollutant Minimization Plan .....	10
B. Receiving Water Monitoring Program.....	10
1. Receiving Water Monitoring .....	10
2. Receiving Water Monitoring Reporting .....	11
C. Nutrient Loading and Assimilative Capacity Assessment.....	11
1. Nutrient Assessment .....	11
2. Nutrient Assessment Reporting .....	12
D. Chronic Toxicity Special Study .....	13
1. Chronic Toxicity Testing and Range-Finding Tests.....	13
2. Quality Assurance for Chronic Toxicity.....	15
3. Reporting of Chronic Toxicity Special Study Results.....	16
4. TRE Workplan for Chronic Toxicity.....	17
5. Accelerated Toxicity Testing and TRE/TIE Process for Chronic Toxicity.....	17
PART VI - DEFINITIONS.....	18
PART VII - REFERENCES .....	21
PART VIII - ATTACHMENT .....	21

## **PART I - EFFLUENT LIMITATIONS**

- A. During the period beginning on the effective date of this permit and ending on the expiration date of this permit, StarKist Samoa, Inc. (hereinafter, the “permittee”) is authorized to discharge industrial storm water and wastewater from its facility from Discharge Outfall Number 001 to Pago Pago Harbor in American Samoa. Such discharge shall be limited and monitored by the permittee as specified in Table 1. The permittee shall maintain compliance all effluent limitations specified in Table 1 and requirements identified in this permit.
- B. Except as authorized in Table 1 of this permit, the discharge shall be substantially free or shall not cause the following in the receiving water:
1. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce objectionable color, odor, or taste, either of itself or in combinations, or in the biota;
  2. The discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man;
  3. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits;
  4. The discharge shall be substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life;
  5. The discharge shall not cause the temperature in the receiving water to deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally, fluctuate more than 1 degree Fahrenheit on an hourly basis, or exceed 85 degrees Fahrenheit due to the influence of other than natural causes;
  6. The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed aquatic life criteria for marine waters or human health criteria for consumption of organisms found in EPA 2002a, or the more recent version;
  7. The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units;



Table 1 - Effluent limitations and monitoring, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Effluent Limitations		Monitoring Requirements	
		Average Monthly	Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	Monitoring only		Continuous	Metered
pH	std. units	6.5 <sup>1</sup>	8.6 <sup>2</sup>	Continuous	Continuous
Temperature	°F	90	95	Continuous	Continuous
Biological Oxygen Demand	mg/l	Monitoring only		Once/Week	24-hr Composite
Total Suspended Solids	lbs/day	3,960	9,960	Once/Week	24-hr Composite
Oil and Grease	lbs/day	1,008	2,520	Once/Week	Grab
Total Nitrogen	lbs/day	1,200	2,100	2x/Week <sup>3</sup>	24-hr Composite
Total Phosphorus	lbs/day	192	309	2x/Week	24-hr Composite
Total Ammonia (as N)	mg/l	83.36	167.26	Once/Week	24-hr Composite
	lbs/day	2,016	4,045	Once/Week	24-hr Composite
Mercury (Total Recoverable)	ug/l	1.80	4.72	Semi-annual	24-hr Composite
	lbs/day	0.04	0.11	Semi-annual	24-hr Composite
Copper (Total Recoverable)	ug/l	58.42	117.22	Semi-annual	24-hr Composite
	lbs/day	1.41	2.84	Semi-annual	24-hr Composite
Zinc (Total Recoverable)	ug/l	1,138	2,284	Semi-annual	24-hr Composite
	lbs/day	27.52	55.24	Semi-annual	24-hr Composite

<sup>1</sup>Instantaneous Minimum

<sup>2</sup>Instantaneous Maximum

<sup>3</sup>Monitoring frequency based on sampling 2x per week for total nitrogen and total phosphorus means 24-hour composite samples are collected twice on production days only during a 7-day period.

8. The discharge shall not cause the light penetration depth to be less than 65.0 feet (not to exceed given value 50 percent of the time);
  9. The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.
- C. The discharge shall not cause the following at the boundary of the mixing zone for mercury:
1. The discharge shall not cause the water column concentration of mercury to exceed 0.05 ug/l.
- D. The discharge shall not cause the following at the boundary of the mixing zone for nutrients:
1. The discharge shall not cause the total phosphorus concentration to exceed 30.0 ug/l as phosphorus;
  2. The discharge shall not cause the total nitrogen concentrations to exceed 200.0 ug/l as nitrogen; and
  3. The discharge shall not cause the concentration of chlorophyll-*a* to exceed 1.0 ug/l.

## **PART II - MONITORING AND REPORTING REQUIREMENTS**

### **A. Effluent Monitoring and Reporting**

#### **1. Effluent Sampling**

- a. Samples and measurements taken as required in this permit shall be representative of the volume and nature of the monitored discharge. All effluent samples shall be taken after plant return flows and following the final treatment process and before mixing with the receiving water.

#### **2. Effluent Analysis**

- a. Effluent monitoring and analyses must be conducted in accordance with EPA test procedures approved under Title 40, Code of Federal Regulations (“CFR”), Part 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, as amended. For effluent analyses, the permittee shall utilize a Method Detection Limit (“MDL”) or Minimum Level (“ML”) that is lower than the effluent limitations described in Table 1 of this permit. If all published MDLs or MLs are higher than the effluent limitations, the permittee shall utilize the test method procedure with the lowest MDL or ML. The permittee shall ensure that the laboratory utilizes a standard calibration where the

lowest standard point is equal to or less than the ML. Priority pollutant analysis for metals shall measure "total recoverable metal," except as provided under 40 CFR 122.45(c). Priority pollutant analysis for benzene, ethylbenzene, toluene and xylene shall employ the use of either EPA Methods 602 or 624. Effluent analysis for xylene shall measure "total xylene."

### 3. Effluent Quality Reporting

- a. For samples collected during the quarterly or semi-annual reporting period, the permittee shall report on the Discharge Monitoring Report ("DMR") the following for each pollutant or parameter:
  - i. The maximum value, if the result is greater than or equal to the ML; or
  - ii. NODI(Q), if result is greater than or equal to the laboratory's MDL but less than the ML; or
  - iii. NODI(B), if result is less than the laboratory's MDL.
- b. For pollutants with effluent limitations expressed in both concentration and mass, the permittee shall report monitoring results on the DMRs in both concentration and mass. To convert concentration to mass, the permittee shall use the following equation:

$$\frac{\text{lbs of pollutants}}{\text{day}} = \text{flow (MGD)} \times \text{concentration (mg/l)} \times 8.34 \frac{\text{lbs/MG}}{\text{mg/l}}$$

- c. As an attachment to each DMR form submitted during the quarterly or semi-annual reporting period, the permittee shall report for all pollutants or parameters with monitoring requirements specified in Table 1 of this permit the following:
  - i. The analytical method number or title, preparation and analytical test procedure utilized by the laboratory, published MDL or ML, the laboratory's MDL;
  - ii. The standard deviation from the laboratory's MDL study; and
  - iii. The number of replicate analyses (*n*) used to compute the laboratory's MDL.
- d. In addition to information requirements specified under 40 CFR 122.41(j)(3), records of monitoring information shall include: the laboratory which performed the analyses and any comment, case narrative, or summary of results produced by the laboratory. The records should identify and discuss QA/QC analyses performed concurrently during sample analyses and whether project and 40 CFR 136 requirements were met. The summary of results must include information on initial and continuing calibration, surrogate analyses, blanks, duplicates,

laboratory control samples, matrix spike and matrix spike duplicate results, and sample receipt condition, holding time, and preservation.

- e. All monitoring results shall be submitted in such a format as to allow direct comparison with effluent limitations and requirements in this permit. Monitoring results must be reported on a monthly or semi-annual DMR form. Monthly DMR forms shall be submitted quarterly and by the 15th of the month following the previous quarterly reporting period. For example, the three DMR forms for the reporting period January through March shall be submitted by the 15th of April. Semi-annual DMR forms shall be submitted by the 15th of the month following the semi-annual reporting period, unless otherwise specified by EPA.

Duplicate signed copies of these, and all other reports required herein, shall be submitted to the Regional Administrator of EPA and the Director of ASEPA at the following addresses:

Regional Administrator  
EPA - Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

#### 4. Quality Assurance

- a. The permittee shall develop a Quality Assurance ("QA") Manual for the field collection and laboratory analysis of samples. The purpose of the QA Manual is to assist in planning for the collection and analysis of samples and explaining data anomalies if they occur. The QA Manual shall be prepared and implemented **within 90 days from the effective date of this permit**. At a minimum, the QA Manual shall include the following:
  - i. Identification of project management and a description of the roles and responsibilities of the participants; purpose of sample collection; matrix to be sampled; the analytes or compounds being measured; applicable technical, regulatory, or program-specific action criteria; personnel qualification requirements for collecting samples;
  - ii. Description of sample collection procedures; equipment used; the type and number of samples to be collected including QA/Quality Control ("QC") samples; preservatives and holding times for the samples (see 40 CFR 136.3); and chain of custody procedures;

- iii. Identification of the laboratory used to analyze the samples; provisions for any proficiency demonstration that will be required by the laboratory before or after contract award such as passing a performance evaluation sample; analytical method to be used; MDL and ML to be reported; required QC results to be reported (e.g., matrix spike recoveries, duplicate relative percent differences, blank contamination, laboratory control sample recoveries, surrogate spike recoveries, etc.) and acceptance criteria; and corrective actions to be taken in response to problems identified during QC checks; and
  - iv. Discussion of how the permittee will perform data review and reporting of results to EPA and ASEPA and how the permittee will resolve data quality issues and identify limits on the use of data.
- b. Throughout all field collection and laboratory analyses of samples, the permittee shall use the QA/QC procedures documented in their QA Manual. If samples are tested by a contract laboratory, the permittee shall ensure that the laboratory has a QA Manual on file. A copy of the permittee's QA Manual shall be retained on the permittee's premises and available for review by EPA and/or ASEPA upon request. The permittee shall review its QA Manual annually and revise it, as appropriate.

#### **B. Priority Toxic Pollutants Scan**

1. In accordance with federal regulations, the permittee shall conduct a Priority Toxics Pollutants scan during the fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified by EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

#### **C. Twenty-four Hour Reporting of Noncompliance**

1. In accordance with 40 CFR 122.41(l)(6), the permittee shall report any noncompliance which may endanger human health or the environment. An example of noncompliance is an exceedance of a monthly average effluent limitation. Any information shall be provided orally, within 24 hours from the time the permittee becomes aware of the circumstances, to EPA and ASEPA.

The permittee shall notify EPA and ASEPA at the following telephone numbers:

Pacific Islands Office, CED-6  
EPA - Region IX  
(415) 972-3769

Director  
ASEPA  
(684) 633-2304

A written submission shall also be provided within five days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; and, if the noncompliance has not been corrected, the anticipated time that the noncompliance is expected to continue; and the steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

### **PART III - REOPENER PROVISIONS**

- A. In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.
- B. In accordance with 40 CFR and Parts 122 and 124, this permit may be modified to include effluent limitations or permit conditions to address chronic toxicity in the effluent or receiving water body, as a result of the discharge; or implement new, revised, or newly interpreted water quality standards applicable to chronic toxicity.

### **PART IV - STANDARD CONDITIONS**

- A. The permittee shall comply with all Standard Conditions included as an attachment to this permit.

### **PART V - SPECIAL CONDITIONS**

#### **A. Best Management Practices and Pollution Prevention**

##### **1. Pollution Prevention Program**

- a. The permittee is required to develop and implement appropriate pollution prevention measures or Best Management Practices ("BMPs") designed to control site runoff, spillage or leaks, sludge or waste disposal, and drainage from fish processing areas that may contribute significant amounts of such pollutants to surface waters **within 90 days from the effective date of this permit** (section 304(e) of the CWA and 40 CFR 122.44(k)). BMPs shall include but are not limited to than those necessary to control total suspended solids and oil and grease. Through the implementation of BMPs described in a BMP Plan, the permittee shall prevent or minimize the generation and discharge of wastes and pollutants from the facility to waters of the United States. The BMP plan shall be located at the facility and be made available upon request by EPA and/or ASEPA.

Table 2 provides a summary of deadlines and activities, such as the development and implementation of a BMP plan, required in Special Conditions in this permit.

## 2. Pollutant Minimization Plan

- a. The permittee shall develop and implement a Pollutant Minimization Plan. The permittee shall submit a Pollutant Minimization Plan workplan to EPA and ASEPA **no later than one year after the effective date of the permit** on how it will assess the sources of pollutants in different waste streams. Based on results of implementing the workplan, the permittee shall develop a Pollutant Minimization Plan. **The Pollutant Minimization Plan shall be submitted by the end of the third year of the five-year permit cycle**, unless otherwise specified by EPA. For the purposes of the Pollutant Minimization Plan, pollutants include, but are not limited to, copper, zinc, and mercury. Copper, zinc, and mercury have been observed in the effluent at high concentrations due to routine cannery operations. Although mixing zones for these pollutants have been approved by American Samoa EQC, the permittee shall make every effort to identify the sources of these pollutants within the facility and develop a plan to minimize their entry into the facility's wastewater and subsequent discharge to the receiving water. The goal of the Pollutant Minimization Plan shall be to achieve as soon as practicable for the discharge to meet water quality standards copper, zinc, and mercury with a minimally sized mixing zone. **The permittee shall implement the Pollutant Minimization Plan in the fourth and fifth year of the five-year permit cycle.** Table 2 provides a summary of deadlines and activities, such as the development and implementation of a Pollutant Minimization Plan, required in Special Conditions in this permit.

## B. Receiving Water Monitoring Program

### 1. Receiving Water Monitoring

- a. The permittee shall conduct **semi-annual** receiving water monitoring that corresponds to tradewind and non-tradewind seasons. The permittee shall monitor at the following previously established receiving water monitoring locations pollutants or parameters at three depths, i.e., surface, mid-depth and bottom depth.
  - i. **Reference site**, Station 5, for monitoring of background concentrations for total phosphorus, total nitrogen, zinc, copper, mercury, and total ammonia;
  - ii. **End of the Pipe**, Station 14, for monitoring of zinc, copper, total mercury, total ammonia to evaluate mixing zones within the zone of initial dilution;
  - iii. **Zone of initial dilution**, Stations 8 and 8A, for monitoring of zinc, copper, total mercury, and total ammonia to evaluate their respective mixing zones

that were authorized for this permit term; Stations 8 and 8A are located at the boundary of the zone of initial dilution;

- iv. **Zone of initial dilution**, Stations 8 and 8A, for monitoring of light penetration and dissolved oxygen to determine compliance with narrative WQBELs and ASWQS;
- v. **Zone of mixing**, Station 16, for monitoring of total phosphorus, total nitrogen, and light penetration to evaluate the size of the mixing zone for nutrients that was authorized for this permit term and to determine compliance with narrative WQBELs; Station 16 is located at the boundary of the zone of mixing;
- vi. **All stations** at the zone of initial dilution and zone of mixing for monitoring of visible floating materials, grease, oil, scum or foam; and
- vii. **All stations** at the zone of initial dilution, zone of mixing, and reference site the measurement of vertical profiles of temperature, salinity, light penetration, and dissolved oxygen to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

## **2. Receiving Water Monitoring Reporting**

- a. Semi-annual receiving water monitoring results shall be submitted to EPA and ASEPA prior to the subsequent semi-annual receiving water monitoring event, unless otherwise specified by EPA. For example, if surface water samples were collected during the non-tradewind season in March, and tradewind sampling is scheduled for October, results shall be submitted to EPA and ASEPA prior to the October sampling event.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Receiving Water Monitoring Program, required in Special Conditions in this permit.

## **C. Nutrient Loading and Assimilative Capacity Assessment**

### **1. Nutrient Assessment**

- a. The permittee, in coordination with StarKist Samoa, Inc., shall conduct an assessment of nutrient levels in the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution (i.e., farfield dilution). The purpose of the assessment is to determine whether the existing mass-based effluent limitations for nutrients are indeed set at the upper bounds of acceptable performance or the waste load allocation.



- b. The permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than one year from the effective date of the permit, unless otherwise specified by EPA**, a Nutrient Loading and Assimilative Capacity Assessment workplan to EPA and ASEPA for review that describes the steps that will be taken to assess nutrients in the combined effluents discharges and the dilution required to meet water quality standards. At a minimum, the workplan (no more than five pages) shall include the following:
  - i. Description of the method(s) used to determine existing mass-based effluent limitations; and
  - ii. Description of the water quality models to be used to assess nutrients in the discharge; and
  - ii. A list of the projected outputs (e.g., dilution factors) from the models.

## 2. Nutrient Assessment Reporting

- a. The permittee, in coordination with StarKist Samoa, Inc., shall submit a final report on the nutrient assessment to EPA and ASEPA **no later than the end of the third year of the five year permit term, unless otherwise specified by EPA**. At a minimum, the final report shall include the following:
  - i. Dilution calculations;
  - ii. Waste load allocation estimates (in concentration);
  - iii. Summary of model inputs and outputs (e.g., ambient and effluent data, flow); and
  - iv. Evaluation of the existing size of the mixing zone for nutrients based on modeling results.
- b. Table 2 provides a summary of deadlines and activities, such as implementation of a Nutrient Loading and Assimilative Capacity Assessment, required in Special Conditions in this permit.

Table 2 - Summary of Schedule of Activities Pursuant to Special Conditions of this Permit.

<b>Timeframe/Deadline</b>	<b>Activity</b>
Upon Effective Date of Permit	Implement Receiving Water Monitoring Program
Implement within 90 days from Effective Date of Permit	Implement Pollution Prevention Program Submit Initial Investigation TRE Workplan (1-2 pages)
No Later than 180 Days from Effective Date of Permit	Submit Workplan for Pollutant Minimization Plan Submit Workplan for Chronic Toxicity Testing Special Study
No Later than One Year from Effective Date of Permit	Submit Workplan for Nutrient Loading and Assimilative Capacity Assessment
Years 1 - 3	Perform Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests
No Later than End of the Third Year from Effective Date of Permit	Submit Pollutant Minimization Plan Submit Final Report on Nutrient Loading and Assimilative Capacity Assessment
No Later than 90 days after Final Range-Finding Test	Final Report on Results of Semi-Annual Chronic Toxicity Bioassays using Range-Finding Tests (includes Chronic IWC value)
Years 4 - 5	Implement Pollutant Minimization Plan Perform Semi-Annual Chronic Toxicity Bioassays using Chronic IWC Based on Range-Finding Tests

#### **D. Chronic Toxicity Special Study**

##### **1. Chronic Toxicity Testing and Range-Finding Tests**

- a. The permittee, in coordination with StarKist Samoa, Inc., shall conduct a special study to evaluate chronic toxicity levels of the combined cannery effluent following initial mixing with the receiving water, under critical conditions, and subsequent dilution.

- b. The permittee, in coordination with StarKist Samoa, Inc., shall conduct **semi-annual** chronic toxicity testing using combined flow-weighted 24-hour composite effluent samples from its facility and the StarKist Samoa, Inc., facility. The purposes of the study are to determine the following:
  - i. Levels of chronic toxicity in the discharge;
  - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures; and
  - iii. Effluent triggers or limits.
- c. The permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than 180 days from the effective date of the permit** a Chronic Toxicity Special Study workplan to EPA and ASEPA for review and approval that describes the steps to assess chronic toxicity in the combined effluents discharge. **At a minimum**, the workplan (no more than five pages) shall include a description of the procedures to determine the range of test concentrations and chronic toxicity, and who will be conducting the toxicity tests.
- d. Chronic toxicity test samples shall be collected at the point of discharge at the designated NPDES sampling station for effluent at the COS Samoa Packing Company, Inc. facility (i.e., downstream from the last treatment process and any in-plant return flows where a representative effluent sample can be obtained).
- e. The permittee shall conduct a static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or sand dollar, *Dendraster excentricus* (Embryo-larval Development Test Method). Species and short-term test methods for estimating the chronic toxicity of NPDES effluents are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
- f. **There are no chronic toxicity effluent limitations for the combined effluent. For years one through three of the five-year permit term**, the permittee, in coordination with StarKist Samoa, Inc., shall conduct **range-finding tests** to establish test solution concentrations, or the chronic toxicity in-stream waste concentration ("IWC") that includes the appropriate dilution factor, for definitive tests or routine chronic toxicity bioassays to be conducted in years four and five of the permit term. The range of concentrations just causing a chronic effect shall be determined in a range-finding test to provide information on the range of concentrations to be used in the routine chronic toxicity bioassays.
- g. The permittee shall perform semi-annual range-finding tests on a series of at least five effluent dilutions and proper controls. At completion of the range-finding tests, the permittee, in coordination with StarKist Samoa, Inc., shall prepare and submit **no later than 90 days from the final semi-annual range-finding test** a

final report to EPA and ASEPA for review that describes the results of the range-finding tests. At a minimum, the final report shall include the following:

- i. The levels of chronic toxicity in the discharge (e.g., the lowest observed effective concentration or LOEC);
  - ii. The appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using a range finding testing procedures;
  - iii. NOEC and EC<sub>25</sub> (or IC<sub>25</sub>) data and all data used to calculate it (include all statistical methods and concentration-response curves);
  - iv. The dilution series to be used in routine chronic toxicity bioassays in years four and five of the five-year permit term (the dilution series shall include the combined discharge IWC and two dilutions above and below this IWC); and
  - v. Effluent triggers based on the calculated IWC to assess chronic toxicity of the combined effluents.
- h. As part of the chronic toxicity special study, **in years four and five of the five-year permit term**, the permittee, in coordination with StarKist Samoa, Inc, shall conduct routine semi-annual chronic toxicity testing using the chronic toxicity IWC that was determined from the range-finding tests. The results of the range-finding tests shall be used to select at least five concentrations that include and bracket the IWC. Tests using this series of concentrations should allow the NOEC and EC<sub>25</sub> (or IC<sub>25</sub>) values and their confidence limits to be estimated as precisely as possible.
- i. Table 2 provides a summary of deadlines and activities, such as conducting a Chronic Toxicity Special Study, required in Special Conditions in this permit

## 2. Quality Assurance for Chronic Toxicity

- a. Quality assurance measures, instructions, and other recommendations and requirements are found in the first edition of *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995).
- b. Effluent dilution water and control water should be prepared and used as specified in the test methods manual *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995). If the dilution water is different from test organism culture water, then a second control using culture water shall also be used. If the use of artificial sea salts is considered provisional in the test method, then artificial sea salts shall not be used to increase the salinity of the effluent sample prior to toxicity testing without written approval by the permitting authority.
- c. If organisms are not cultured in-house, concurrent testing with a reference toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests and effluent

toxicity tests shall be conducted using the same test conditions (e.g., same test duration, etc.).

- d. If either the reference toxicant or effluent toxicity tests do not meet all test acceptability criteria in the test methods manual, the permittee must re-sample and re-test within 14 days.
- e. Because this permit requires sublethal hypothesis testing endpoints from test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA 1995), with-in test variability must be reviewed for acceptability and variability criteria (upper percent MSD bound) must be applied, as directed under each test methods. Based on this review, only accepted effluent toxicity test results shall be reported on the DMR form.
- f. When effluent monitoring frequencies for whole effluent toxicity and priority pollutants are concurrent, the permittee shall perform chemical analyses for priority pollutants on a split sample collected for whole effluent toxicity testing.

### **3. Reporting of Chronic Toxicity Special Study Results**

- a. A full laboratory report for all toxicity testing shall be submitted as an attachment to the DMR for the semi-annual period in which the toxicity test was conducted and shall also include: the toxicity test results - in **NOEC**;  **$TU_c = 100 \div NOEC$** ; **EC<sub>25</sub> (or IC<sub>25</sub>)**; and  **$TU_c = 100 \div EC_{25}$  (or IC<sub>25</sub>)** - reported according to the test methods manual chapter on report preparation and test review; the dates of sample collection and initiation of each toxicity test; all results for effluent parameters monitored concurrently with the toxicity test(s); and progress reports on TRE/TIE investigations. NOEC is the highest concentration of toxicant which organisms are exposed in a short-term chronic test that causes no observable adverse effects on the test organisms (e.g., the highest concentration of toxicant in which the values for the observed responses are not statistically significantly different from the controls). The permit requires additional toxicity testing if a chronic toxicity monitoring trigger is exceeded.
- b. The permittee shall notify the permitting authority in writing within 14 days of exceedance of a chronic toxicity monitoring trigger. This notification shall describe actions the permittee has taken or will take to investigate, identify, and correct the causes of toxicity; the status of actions required by this permit; and schedule for actions not yet completed; or reason(s) that no action has been taken.

#### 4. TRE Workplan for Chronic Toxicity

- a. **No later than 90 days after the effective date of the permit**, the permittee shall prepare and submit a copy of a TRE Workplan (1-2 pages) specific to chronic toxicity to EPA and ASEPA for review. This plan shall include steps the permittee intends to follow if toxicity is measured above chronic toxicity monitoring triggers and should include, at a minimum the following:
  - i. A description of the investigation and evaluation techniques that would be used to identify potential causes and sources of chronic toxicity, effluent variability, and treatment system efficiency;
  - ii. A description of methods for maximizing in-house treatment system efficiency, good housekeeping practices, and a list of all chemicals used in operations at the facility; and
  - iii. If a Toxicity Identification Evaluation ("TIE") is necessary, an indication of who would conduct the TIE (i.e., an in-house expert or outside contractor).

#### 5. Accelerated Toxicity Testing and TRE/TIE Process for Chronic Toxicity

- a. **If during range finding testing in years one through three, one test result is found to be greater than 256 TU<sub>c</sub> (during the semi-annual reporting period) or a NOEC of 0.390 percent effluent (which is based on a maximum allowable dilution of 313:1 estimated at the ZID), the permittee is required to perform accelerated toxicity testing.**
- b. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger based on the IWC is exceeded and the **source of toxicity is known** (e.g., a temporary plant upset), then the permittee shall conduct **one additional toxicity test** using the same species and test method. This test shall begin within 14 days of receipt of test results exceeding a chronic toxicity monitoring trigger. If the additional toxicity test does not exceed a chronic toxicity monitoring trigger, then the permittee may return to their regular testing frequency.
- c. If during routine semi-annual chronic toxicity testing, a chronic toxicity monitoring trigger is exceeded and the **source of toxicity is not known**, then the permittee shall conduct **six additional toxicity tests** using the same species and test method, approximately every two weeks, over a 12 week period. This testing shall begin within 14 days of receipt of test results exceeding the chronic toxicity monitoring trigger. If none of the additional toxicity tests exceed a chronic toxicity monitoring trigger then the permittee may return to their regular testing frequency.

- d. If additional toxicity tests (as stated paragraphs 5a, 5b and 5c above) exceeds a chronic toxicity monitoring trigger, then, within 14 days of receipt of this test result, the permittee shall implements its TRE Workplan (as described in Part 4 of this section) using the same species and test method and, as guidance, EPA manual EPA manual *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations* (EPA 1989).
- e. The permittee may initiate a TIE as part of a TRE to identify the causes of chronic toxicity, using as guidance the following EPA manuals: *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I* (EPA 1992); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993a); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA 1993b); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA 1996).

## PART VI - DEFINITIONS

**24-hr Composite.** A “composite” sample means a time-proportioned mixture of not less than eight discrete aliquots obtained at equal time intervals (e.g., 24-hour composite means a minimum of eight samples collected every three hours). The volume of each aliquot shall be directly proportional to the discharge flow rate at the time of sampling, but not less than 100 ml. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

**Average Monthly Effluent Limitation ("AML").** The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

**Best Management Practices ("BMPs").** Best Management Practices” or “BMPs” are schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural, and/or managerial practices to prevent or reduce the pollution of waters of the U.S. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may further be characterized as operational, source control, erosion and sediment control, and treatment BMPs.

**Chronic Toxicity.** The degree to which a pollutant, discharge, or water sample causes a sublethal toxic response, such as an alteration in growth rate or reproduction.

**Chronic Toxic Unit (TU<sub>c</sub>).** The reciprocal of the highest tested concentration of an effluent or test sample whose effect is not statistically different from the control determined in a chronic toxicity test (i.e.,  $TU_c = 100 \div NOEC$ ).

**Daily Discharge.** A “daily discharge” means the “discharge of a pollutant” measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the “daily discharge” is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the “daily discharge” is calculated as the average measurement of the pollutant over the day.

**Discharge Monitoring Report (“DMR”).** A NPDES form for the reporting of self-monitoring NPDES results by the permittee.

**Grab Sample.** A single individual sample collected at a particular time and place that represents the composition of the discharge only at that time and place. Sample collection, preservation, and handling shall be performed as described in the most recent edition of 40 CFR 136.3, Table II. Where collection, preservation, and handling procedures are not outlined in 40 CFR 136.3, procedures outlined in the 18th edition of *Standard Methods for the Examination of Water and Wastewater* shall be used.

**Maximum Daily Effluent Limitation (“MDL”).** The highest allowable daily discharge of a pollutant or parameter, over a calendar day or 24-hr period. For pollutants with limitations expressed in terms of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day.

**Method Detection Limit (“MDL”).** The minimum concentration of an analyte that can be detected with 99 percent confidence that the analyte concentration is greater than zero, as defined by a specific laboratory method in 40 CFR 136. The procedure for determination of a laboratory MDL is in 40 CFR 136, Appendix B.

**Minimum Level (“ML”).** The concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed in a specific analytical procedure, assuming that all the method-specific sample weights, volumes, and processing steps have been followed (as defined in EPA’s draft *National Guidance for the Permitting, Monitoring, and Enforcement of Water Quality-Based Effluent Limitations Set Below Analytical Detection/Quantitative Levels*, March 22, 1994). If a published method-specific ML is not available, then an interim ML shall be calculated. The interim ML is equal to 3.18 times the published method-specific MDL rounded to the nearest multiple of 1, 2, 5, 10, 20, 50, etc. (When neither an ML nor MDL are available under 40 CFR 136, an interim ML should be calculated by multiplying the best estimate of detection by a factor of 3.18; when a range of detection is given, the lower end value of the range of detection should be used to calculate the ML.) At this point in the calculation, a different procedure is used for metals, than non-metals:

- For metals, due to laboratory calibration practices, calculated MLs may be rounded to the nearest whole number; and



- For non-metals, because analytical instruments are generally calibrated using the ML as the lowest calibration standard, the calculated ML is then rounded to the nearest multiple of  $(1, 2, \text{ or } 5) \times 10^n$ , where  $n$  is zero or an integer. (For example, if an MDL is 2.5 ug/l, then the calculated ML is:  $2.5 \text{ ug/l} \times 3.18 = 7.95 \text{ ug/l}$ . The multiple of  $(1, 2, \text{ or } 5) \times 10^n$  nearest to 7.95 is  $1 \times 10^1 = 10 \text{ ug/l}$ , so the calculated ML, rounded to the nearest whole number, is 10 ug/l.).

**NODI(B).** The concentration of the pollutant in a sample is not detected. NODI(B) is reported on a DMR when a sample result is less than the laboratory's MDL.

**NODI(Q).** The concentration of the pollutant in a sample is detected but not quantified. NODI(Q) is reported on a DMR when a sample result is greater than or equal to the laboratory's MDL, but less than the ML.

**No Observed Effect Concentration ("NOEC").** The highest tested concentration of an effluent or test sample whose effect is not statistically different from the control.

**Toxicity Identification Evaluation ("TIE").** A set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organisms toxicity tests.

**Toxicity Reduction Evaluation ("TRE").** A study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation ("TIE") may be required as part of the TRE, if appropriate.

**Whole Effluent Toxicity ("WET").** The aggregate toxic effect of an effluent measured directly with a toxicity test.

**Zone of Initial Dilution ("ZID").** By definition within American Samoa water quality standards, it is the area of a plume where dilution is achieved due to the combined effects of momentum and buoyancy of the effluent discharged from an orifice. This is also often referred as the region of initial mixing surround or adjacent to the end of the outfall pipe or diffuser port. For the purposes of this permit, the ZID represents a seawater-to-effluent dilution ratio of 313:1 based on critical initial dilution.

**Zone of Mixing ("ZOM").** A defined portion of a water body receiving water around a point source within which specific modifications of applicable water quality standards are approved by American Samoa Environmental Quality Council.

## **PART VII - REFERENCES**

EPA. 1989. Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations. Fava, J. A., Lindsay, D., Clement, W. H., Clark, R., and DeGraeve, G. M. Chemicals and Chemical Product Branch, Risk Reduction Engineering Laboratory, EPA. EPA/600/2-88/070.

EPA. 1992. Toxicity Identification Evaluations: Characterization of Chronically Toxic Effluents, Phase I. Office of Research and Development, Environmental Research Laboratory, EPA. EPA/600/6-91/005F.

EPA. 1993a. Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/080.

EPA 1993b. Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity. Office of Research and Development, EPA. EPA/600/R-92/081.

EPA. 1995. Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms. Chapman, G. A., Denton, D. L., and Lazorchak, J. M. National Exposure Research Laboratory, Office of Research and Development, EPA. EPA/600/R-95/136.

EPA. 1996. Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document. Burgess, R. M., Ho, K. T., Morrison, G. E., Chapman, G. and Denton, D. L. National Health and Environmental Effects Laboratory, Atlantic Ecology Division, EPA, Narragansett, RI. EPA/600/R-96/054.

EPA. 2002a. National Recommended Water Quality Criteria. Office of Water, EPA. EPA/822/R-02/047.

EPA. 2002b. Short-term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms. Office of Water, EPA. EPA/821/R-02/013.

## **PART VIII - ATTACHMENT**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**  
**FACT SHEET**

Permittee and Mailing Address: StarKist Samoa, Inc.  
P.O. Box 368  
Pago Pago, Tutuila  
American Samoa 96799

Permitted Facility and Address: StarKist Samoa, Inc.  
Atu'u, Maoputasi  
American Samoa 96799

Contact Person: Mr. Brett B. Butler  
General Manager  
(684) 644-1835

NPDES Permit No.: AS0000019

**PART I - STATUS OF PERMIT**

StarKist Samoa, Inc. (hereinafter, the “permittee”) has applied for renewal of its National Pollutant Discharge Elimination System (“NPDES”) permit pursuant to U.S. Environmental Protection Agency (“EPA”) regulations set forth in Title 40, Code of Federal Regulations (“CFR”), Part 122.21, for the discharge of treated effluent from its tuna processing and canning facility to Pago Pago Harbor in American Samoa. These regulations require any person who discharges or proposes to discharge pollutants from a point source into waters of the U.S. to submit a complete application for a NPDES permit, including renewal of a permit. In accordance with 40 CFR 122.21(e), on July 26, 2005, the permittee submitted a complete application for renewal of its NPDES permit. The permittee is currently discharging to Pago Pago Harbor under the NPDES permit No. AS0000019, which became effective on January 23, 2001, and expired on January 23, 2006. Pursuant to 40 CFR 122.21, the terms of the existing permit are administratively extended until the issuance of a new permit.

**PART II - DESCRIPTION OF FACILITY**

The permittee owns and operates a tuna processing and canning facility (the “facility”) that is located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa (“American Samoa;” Attachment A). The facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. In the permit renewal application, the permittee indicated a long-term average daily production of 564 tons or 1,128,000 lbs of tuna processed per day (February 2001 to March 2005), with a maximum daily production of 614 tons or 1,228,000 lbs per day (March 2003) observed. During the permit term, the permittee anticipates a maximum average daily production<sup>1</sup> of 600 tons or 1,200,000 lbs of tuna processed per day.

---

<sup>1</sup> The anticipated maximum average daily production is based on the total number of lbs of tuna processed over the month divided by the number of days of operation in the month. This is not design production.

The facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. The facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

### **PART III - DESCRIPTION OF DISCHARGE AND RECEIVING WATER**

During facility operations, the permittee discharges to Pago Pago Harbor at the following discharge point:

<b>Discharge Point</b>	<b>Discharge Point Description</b>	<b>Effluent Description</b>	<b>Discharge Point Latitude</b>	<b>Discharge Point Longitude</b>
001	Joint Cannery Outfall	Industrial Wastewater	13°17'01"S	170°40'02"W

Discharge Point No. 001 is located approximately 1.5 miles seaward from the facility and began operation in February 1992. The discharge point, also known as the Joint Cannery Outfall or "JCO", is shared by both the permittee and the adjacent tuna processing facility operated by Chicken of the Sea ("COS") Samoa Packing Company, Inc. (Attachment B). COS Samoa Packing Company, Inc. is currently discharging under a separate NPDES permit (AS0000027). Discharge Point No. 001 terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor. The diffuser consists of four active and two inactive (intentionally blocked) ports.

Effluent discharges at Discharge Point No. 001 from the StarKist Samoa, Inc. facility include storm water runoff and industrial wastewater from process areas that include cold storage, thawing, butchering, and pre-cooking, spray-cooling, press-scrap reduction, can washer and boiler, and wash down (Attachment C). All discharges from the facility (i.e., storm water and non-storm water) are regulated under the existing NPDES permit and are treated by a Dissolved Air Flotation ("DAF") unit and released to Pago Pago Harbor. Accumulated sludge from the DAF unit and high-strength waste from pre-cooking and scrap reduction areas are collected and disposed of offsite at a federally-permitted ocean disposal site (EPA Ocean Disposal Permit No. OD93-01 SPECIAL). Based on effluent monitoring data, the permittee reported a maximum daily maximum flow rate of 2.57 million gallons per day ("MGD;" January 2002 to December 2006), and a maximum monthly average flow of 1.56 MGD (January 2002 to March 2005). The facility's wastewater treatment's design flow is 2.9 MGD. Table 1 provides a summary of effluent limitations contained in the existing permit and representative monitoring data during the permit term.

In summary, effluent monitoring data collected from January 2002 to December 2006 showed elevated temperatures and concentrations of total suspended solids, total ammonia, total nitrogen, total phosphorus, oil and grease, copper, and zinc. As shown in Table 1, the highest concentrations of total ammonia, total nitrogen, total phosphorus, oil and grease, copper, and

Table 1 – Summary of Existing Technology and Water Quality-based Effluent Limitations for Discharge Point No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Existing Effluent Limitations		Monitoring Data (From Jan. 2002 to Dec. 2006)	
		Average Monthly	Maximum Daily	Highest Average Monthly	Highest Maximum Daily
Flow Rate	MGD <sup>1</sup>	--	2.9	1.56	2.57
Temperature	°F	90	95	91	114
Total Suspended Solids	lbs/day	2,996	7,536	3,664.5	6,520.9
Oil and Grease	lbs/day	763	1,907	1,261.8	3391.9
Total Nitrogen	lbs/day	1,200	2,100	3,795.5	5,460.9
Total Phosphorus	lbs/day	192	309	393.0	583.5
Total Ammonia (as N)	mg/l	--	133	--	167.3
Copper	ug/l	66	108	346	346
Zinc	ug/l	1,545	1,770	4,740	4,740

<sup>1</sup>MGD means million gallons per day.

zinc exceeded existing permit effluent limitations. Except for copper and zinc, the highest concentrations were observed in January 2002. The highest concentrations of copper and zinc were observed in April 2004 and December 2005, respectively.

To protect the designated uses of surface waters of the U.S., American Samoa has adopted water quality standards for marine waters depending on the level of protection required. Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. The Harbor is approximately three miles long with the entrance facing to the south and depths ranging from 60 to over 200 feet. American Samoa water quality standards ("ASWQS") state that "Pago Pago Harbor has been designated by the American Samoa Government to be developed into a transshipment center for the South Pacific. Recognizing its unique position as an embayment where water quality has been degraded from the natural condition, the [Environmental Quality Commission] has established a separate set of standards for Pago Pago Harbor." These standards identify the protected uses for Pago Pago Harbor and include the following:

- recreational and subsistence fishing;
- boat-launching ramps and designated mooring areas;

- subsistence food gathering, e.g. shellfish harvesting;
- aesthetic enjoyment;
- whole and limited body-contact recreation, e.g., swimming, snorkeling, and scuba diving;
- support and propagation of marine life;
- industrial water supply;
- mari-culture development;
- normal harbor activities, e.g., ship movements, docking, loading and unloading, marine railways and floating drydocks; and
- scientific investigations.

To protect these uses, ASWQS also establish prohibited uses that include but are not limited to the following:

- dumping or discharge of solids waste;
- animal pens over or within 50 feet of any shoreline;
- dredging and filling activities; except as approved by the Environmental Quality Commission ("EQC");
- toxic, hazardous and radioactive waste discharges; and
- discharge of oil sludge, oil refuse, fuel oil, or bilge water, or any other wastewater from any vessel or unpermitted shoreside facility.

#### **PART IV - DETERMINATION OF NUMERICAL EFFLUENT LIMITATIONS**

The Clean Water Act ("CWA") requires point source dischargers to control the amount of pollutants that are discharged to waters of the United States. The control of pollutants is established through effluent limitations and other requirements in NPDES permits. When determining effluent limitations, EPA must consider limitations based on the technology used to treat the pollutant(s) (i.e., technology-based effluent limits) and limitations that are protective of water quality standards (i.e., water quality-based effluent limits). Since storm water is mixed with process waste water, technology-based effluent limitations and water quality-based effluent limits apply to the combined discharge.

##### **A. Applicable Technology-based Effluent Limitations**

In accordance with 40 CFR 408.140, technology-based effluent limitations are proposed for total suspended solids and oil and grease based on nationally promulgated effluent limitation guidelines for tuna processing facilities (40 FR 55781, Dec. 1, 1975). These effluent limitations guidelines ("ELGs") represent the degree of effluent reduction attainable by the application of the best practicable control technology currently available ("BPT") and best conventional pollutant control technology ("BCT") for the processing of tuna. Table 2 provides a summary of proposed technology-based effluent limitations for Discharge Point No. 001.

1. **Total Suspended Solids.** Pursuant to 40 CFR 408.142 and 408.47, effluent limitations are proposed for total suspended solids and are based on BPT. As

Table 2 - Summary of Proposed Technology-based Effluent Limitations for Discharge Point No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
Total Suspended Solids	lbs/day	3,960	9,960
Oil and Grease	lbs/day	1,008	2,520

provided in 40 CFR 408.147, BCT limitations shall be the same as the BPT limitations. The ELGs for BPT for suspended solids include a daily maximum of 8.3 lbs/1,000 lbs of seafood processed per day and a 30-day average of 3.3 lbs/1000 lbs of seafood processed per day. The existing permit established total suspended solids effluent limitations based on the average daily production of 454 tons of seafood processed per day. Based on the permittee's anticipated maximum average daily production of 600 tons or 1,200,000 lbs of tuna processed per day during the permit term, EPA proposes a maximum daily effluent limitation of 9,960 lbs/day, and an monthly average effluent limitation of 3,960 lbs/day for total suspended solids.

2. **Oil and Grease.** Pursuant to 40 CFR 408.142 and 408.47, effluent limitations are proposed for oil and grease and are based on BPT. As provided in 40 CFR 408.147, BCT limitations shall be the same as the BPT limitations. The ELGs for BPT for oil and grease include a daily maximum of 2.1 lbs/1,000 lbs of seafood processed per day and a 30-day average of 0.84 lbs/1,000 of seafood processed per day. The existing permit established oil and grease effluent limitations based on the average daily production of 454 tons of seafood processed per day. Based on the permittee's anticipated maximum average daily production of 600 tons or 1,200,000 lbs of tuna processed per day during the permit term, EPA proposes a maximum daily effluent limitation of 2,520 lbs/day, and an monthly average effluent limitation of 1,008 lbs/day for oil and grease.

3. **Compliance with Federal Anti-Backsliding Regulations and American Samoa Antidegradation Policy for Proposed Technology-based Effluent Limitations.** ELGs provide the basis for technology-based effluent limits in the draft permit. Section 402(o) of the CWA prohibits the renewal or reissuance of an existing NPDES permit that contains technology-based effluent limits that are less stringent than those established in the previous permit, except as provided in 40 CFR 122.44(l). This is referred to as "anti-backsliding." The draft permit establishes less stringent mass-based technology-based effluent limitations for total suspended solids and oil and grease based on an estimated increase in the daily production level over the term of the permit (ELGs for seafood processors are production-based). 40 CFR 122.44(l)(1) allows for backsliding to technology-based effluent limitations in the draft permit since circumstances on which the existing permit were based, i.e., a lower production of processed tuna than projected in the next permit term, have materially and substantially changed since the time the existing permit was issued and would have constituted cause for a permit modification under 40 CFR 122.62(a).

Furthermore, as allowed by 40 CFR 122.45(b)(ii)(A)(1), EPA may include a condition establishing alternate permit limitations based on anticipated increases in production levels (not to exceed maximum production capability). EPA believes that the projected maximum production capability (not reflected as design production) will be a reasonable measure of the facility's actual production rate during the permit term.

The establishment of less stringent technology-based effluent limitations is subject to the anti-degradation requirements set forth in EPA's antidegradation policy at 40 CFR 131.12 and American Samoa's antidegradation policy in section 24.0202 of ASWQS. These regulations require that existing water uses and the level of water quality necessary to protect the existing uses be maintained. ASWQS antidegradation's policy also states that "waters whose existing quality exceeds the level necessary to support existing uses shall not be degraded unless and until it is found that allowing lower water quality is necessary to accommodate important economic or social needs of the Territory. In no event, however, may water quality be degraded to an extent that it would interfere with or become injurious to existing uses." EPA has determined that the less stringent technology-based effluent limitations, resulting in an increase in mass-loadings of total suspended solids and oil and grease into Pago Pago Harbor, will not violate water quality standards and federal and territorial antidegradation provisions based on the following reasons:

- Receiving water monitoring data show that existing mass-loadings of oil and grease have not resulted in a violation of the narrative ASWQS which states that "the discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man";
- Receiving water monitoring data show that existing mass-loadings of total suspended solids have not resulted in a violation of the narrative ASWQS which states that "the discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits";
- The outer portion of Pago Pago Harbor is not listed as an impaired waterbody for total suspended solids, turbidity or oil and grease under section 303(d) of the CWA; and
- Section 24.0205(e)(1) of ASWQS describes Pago Pago Harbor as an embayment where water quality has been degraded from the natural condition; EPA believes that a permitted increase in mass loadings of oil and grease and total suspended solids will not cause additional degradation to the level of water quality in Pago Pago Harbor that would interfere with or become injurious to the protected uses of the harbor, as the proposed effluent limitations for oil and grease and total suspended should result in an overall reduction of actual mass loadings.



## B. Water Quality-Based Effluent Limitations ("WQBELs")

Pursuant to 40 CFR 122.44(d)(1), water quality-based effluent limitations, or WQBELs, are required in NPDES permits when the permitting authority determines that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above any water quality standard. Applicable water quality standards are established in the 2005 Revision of ASWQS (Administrative Rule No. 006-2005), which incorporated section 304(a) federal water quality criteria. Revisions to these standards were adopted by the American Samoa Environmental Protection Agency ("ASEPA") on January 18, 2006. These standards were subsequently approved by EPA.

1. **Determining the Need for WQBELs.** When determining whether an effluent discharge causes, has the reasonable potential to cause, or contributes to an excursion above narrative or numeric criteria within State (or Territory) water quality standards, the permitting authority uses procedures which account for existing controls on point and nonpoint sources of pollution, and the variability of the pollutant or parameter in the effluent. The sensitivity of species to toxicity testing, and, where appropriate, dilution of the effluent in the receiving water. EPA conducted a Reasonable Potential Analysis ("RPA") for each monitored pollutant or parameter in the effluent, except pH and temperature. The RPA was based on statistical procedures outlined in EPA's *Technical Support Document for Water Quality-based Toxics Control*, Second Printing, herein after referred to as EPA's TSD (EPA 1991). These statistical procedures result in the calculation of the potential maximum effluent concentration based on monitoring data provided by the permittee. Except for whole effluent toxicity, no flow-weighted composite effluent data representing the combined discharge from the two canneries were used, since each cannery is independently regulated by a NPDES permit. Due to the limited monitoring data available and the high degree of effluent variability, potential maximum effluent concentrations were estimated using a coefficient of variation of 0.6 and the 99 percent confidence interval of the 99<sup>th</sup> percentile based on an assumed lognormal distribution of daily effluent values (sections 3.3.2 and 5.5.2 of EPA's TSD).

Section 24.0207 of ASWQS provide for the application of alternate standards within an area surrounding the discharge point, or zone of mixing, when it is not feasible to achieve an effluent quality that meets water quality standards at the point of discharge (i.e., end of the pipe). Although American Samoa EQC has approved the use of dilution credits for specific pollutants (see next section) in this discharge, for the purposes of RPA, dilution credits or mixing zones were not considered in the RPA so that EPA can better assess the discharge for potential pollutant excursions above water quality standards. EPA calculated the potential maximum observed effluent concentration for each pollutant, based on the data provided by the permittee, using the following steady-state mass balance equation:

$$MEC = C_e \times \text{reasonable potential multiplier factor.}$$

Where, "C<sub>e</sub>" is the reported maximum effluent value (in mg/l, ug/l, or TU) that is adjusted for uncertainty, using the statistical procedure previously discussed, to

determine the projected maximum effluent concentration or "MEC". The projected MEC is then compared directly to the applicable water quality criterion to determine reasonable potential. Table 3 provides a detailed RPA for each pollutant or parameter that causes, has the reasonable potential to cause, or contributes to an excursion above ASWQS.

- a. **Total Phosphorus.** Section 24.0205(m) of ASWQS provide that total phosphorus shall not exceed 0.0300 mg/l (as P) in Pago Pago Harbor. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of total phosphorus observed in the effluent (46.3 mg/l). Using the statistical procedures outlined in EPA's TSD, EPA determined a projected MEC of 46.3 mg/l. Since the projected receiving water concentration is greater than the water quality criterion, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for total phosphorus.
- b. **Total Nitrogen.** Section 24.0205(m) of ASWQS provide that total nitrogen shall not exceed 0.200 mg/l (as N) in Pago Pago Harbor. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of total nitrogen observed in the effluent (440 mg/l). Using the statistical procedures outlined in EPA's TSD, EPA determined a projected receiving water concentration of 440 mg/l. Since the projected MEC is greater than the water quality criterion, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for total nitrogen.
- c. **Total Ammonia.** ASWQS provide ambient water quality criteria for total ammonia for the protection of aquatic life in saltwater environments. Ammonia in aquatic environments exists in two forms, un-ionized ammonia ( $\text{NH}_3$ ) and the ammonium ion ( $\text{NH}_4^+$ ), of which the un-ionized form is the most toxic because it can easily diffuse across epithelial membranes of aquatic organisms. The degree of ammonia toxicity in saltwater environments is primarily a function of pH and temperature. The permittee discharges to Pago Pago Harbor, which generally has a pH of 8.2 and temperature of 28 degrees Celsius (ASEPA 2007). Using Appendix A of ASWQS, EPA has determined a CMC (acute) and CCC (chronic) of 2.2 and 0.33 mg/l<sup>2</sup>, respectively, as the applicable water quality criteria for total ammonia (as N), for the protection of aquatic life in Pago Pago Harbor. EPA assessed RP using the maximum concentration observed in the effluent (163.3 mg/l). In accordance with EPA's TSD, EPA calculated a MEC of 163.3 mg/l of total ammonia. Since the MEC is greater than the acute or chronic criterion for total ammonia, EPA has determined that there is reasonable potential for total ammonia to cause, or contributes to an exceedance of ASWQS.

---

<sup>2</sup>CCC and CMC for total ammonia in mg/l of nitrogen; the CCC and CMC of 2.7 and 0.404 mg/l of  $\text{NH}_3$ , respectively, in Appendix A of ASWQS were converted to mg/liter of nitrogen by multiplying the criterion by 0.822.

Table 3 – Summary of Reasonable Potential Analysis for Discharge Point No. 001 for the Starkist Samoa, Inc. facility.

Parameter	Units	Highest Maximum Daily Concentration	<i>n</i>	RP Multiplier <sup>1</sup>	Projected MEC	Water Quality Criterion	Exceeds Standard?
Total Phosphorus	mg/l	46.3	42	1.0	46.3	0.0300	Y
Total Nitrogen	mg/l	440	42	1.0	440	0.200	Y
Total Ammonia (as N) - Acute	mg/l	167.3	57	1.0	167.3	2.2	Y
- Chronic	mg/l	167.3	57	1.0	167.3	0.33	Y
Copper - Acute	ug/l	346	52	1.0	346	4.8	Y
- Chronic	ug/l	346	52	1.0	346	3.1	Y
Zinc - Acute	ug/l	4,740	52	1.0	4,740	90	Y
- Chronic	ug/l	4,740	52	1.0	4,740	81	Y
Total Mercury	ug/l	0.27	5	4.2	1.13	0.05	Y
Whole Effluent Toxicity	TU <sub>a</sub>	9.78	11	2.9	28.36	0.3	Y

<sup>1</sup>RP multiplier based on the coefficient of variation of 0.6 and the 99 percent confidence interval of the 99<sup>th</sup> percentile for  $n < 42$ . For  $n \geq 42$ , the RP multiplier is based on a 95 percent confidence level of the 95<sup>th</sup> percentile as described in Table F6-1 of Procedure 6 in Appendix F to Part 132- Great Lakes Water Quality Initiative Implementation Procedures

- d. **Copper.** Based on effluent monitoring data, copper has been detected in the effluent due to routine cannery operations. ASWQS provide acute and chronic criteria for copper for the protection of aquatic life. The CMC and CCC for copper is 4.8 and 3.1 ug/l, respectively. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration observed in the effluent (346 ug/l). As a result, EPA has determined the projected MEC of 346 ug/l. Since the MEC is greater than the CMC and CCC, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for copper.
- e. **Zinc.** Based on effluent monitoring data, zinc has been detected in the effluent due to routine cannery operations. ASWQS provide acute and chronic criteria for zinc for the protection of aquatic life. The CMC and CCC for zinc is 90 and 81 ug/l, respectively. To determine reasonable potential, EPA calculated the projected MEC using the maximum concentration of zinc observed in the effluent (4,740 ug/l). As a result, EPA estimated the projected MEC of 4,740 ug/l. Thus, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for zinc.
- f. **Mercury.** Based on effluent monitoring data, mercury has been detected in the effluent. Section 24.0206(j) of ASWQS provide that the water column concentration of mercury shall not exceed 0.05 ug/l. In accordance with reasonable potential procedures outlined in EPA's TSD, the projected MEC was estimated using the maximum concentration of mercury observed in the effluent (0.27 ug/l). As a result, EPA estimated the projected MEC of 1.13 ug/l. Since the projected MEC is greater than the water quality criterion for mercury, EPA has determined that the discharge has a reasonable potential to cause, or contributes to an exceedance of ASWQS for mercury.
- g. **Whole Effluent Toxicity.** Pursuant to 40 CFR 122.2, whole effluent toxicity is defined as the aggregate toxic effect of an effluent measured directly by a toxicity test. There are two categories of whole effluent toxicity tests: acute and chronic. An acute toxicity test is conducted over a shorter time period and measures morality. A chronic toxicity test measures sublethal effects (e.g., impacts on reproduction and/or growth), in addition to mortality. ASWQS provide narrative water quality criteria that all territorial waters be "...substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life" (Section 24.0206(d) of ASWQS). This is often referred to as "no toxics in toxic amounts." The exiting permit requires acute toxicity testing of the combined cannery effluent.

In accordance with 40 CFR 122.44(d)(i) and EPA's TSD, EPA assessed the need for effluent limits for toxicity based on acute toxicity data (2001-2006) to determine reasonable potential for the combined facility effluents to cause an

excursion above the acute toxicity criterion. The existing permit did not establish a mixing zone for acute toxicity. Therefore, as specified in section 2.3.3 of EPA's TSD, the CMC is  $0.3 \text{ TU}_a$  ( $\text{TU}_a = 100 \div \text{LC}_{50}$ ) for acute protection of aquatic life and was applied at the end of the pipe for the purposes of RPA. Pursuant to the existing permit, acute toxicity tests were conducted using combined, 24-hour flow-weighted, composite effluent samples from the permittee and the COS Samoa Packing Company Inc. facility.

From March 2001 to March 2006, eleven acute toxicity tests were conducted jointly by the permittee and COS Samoa Packing Company Inc. based on flow-weighted samples collected from each facility and combined to assess joint toxicity. During this period, the maximum  $\text{TU}_a$  was observed in August 2002 and was reported as  $9.78 \text{ TU}_a$ .  $\text{TU}_a$ 's ranged from less than  $2.0 \text{ TU}_a$  to  $9.78 \text{ TU}_a$ . EPA defines toxic unit acute, or  $\text{TU}_a$ , as the reciprocal of the effluent concentration that causes 50 percent of the organisms to die by the end of the acute exposure period (i.e.,  $\text{TU}_a = 100 \div \text{LC}_{50}$ ). The most toxic  $\text{LC}_{50}$  was reported as 10.23 percent effluent. The existing permit did not include any toxicity trigger values for assessing when the combined effluents were acutely toxic; however, based on the CMC of  $0.3 \text{ TU}_a$ , at least eight of the eleven tests, or at least 73 percent, exhibited acute toxicity values higher than the applicable water quality criterion of  $0.3 \text{ TU}_a$ . In accordance with the statistical procedures outlined in EPA's TSD, the projected MEC was estimated using the maximum value for acute toxicity observed in the joint cannery effluent ( $9.78 \text{ TU}_a$ ). As a result, EPA has determined the projected MEC of  $28.36 \text{ TU}_a$ . Since the projected MEC is greater than the acute toxicity criterion of  $0.3 \text{ TU}_a$ , EPA has determined that the combined discharges have a reasonable potential to cause, or contributed to an excursion of the narrative water quality criterion for acute toxicity.

On October 31, 2007, the permittee submitted information to EPA that concluded total ammonia as the primary source of acute toxicity. When it is determined that a discharge causes, has the reasonable potential to cause, or contributes to an excursion above the narrative water quality standard for acute toxicity, federal regulations require that the permit establish effluent limitations to control for acute toxicity. However, as allowed by 40 CFR 122.44(d)(1)(v), limitations on whole effluent toxicity are not necessary where it can be demonstrated that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative water quality standards. EPA has reviewed the information provided by the permittee and believes that total ammonia, in addition to zinc, is the causative pollutant of acute toxicity. Therefore, as allowed by 40 CFR 122.44(d)(1)(iii) and (v), because the source of primary toxicity has been identified, the draft permit contains WQBELs for total ammonia and zinc that are adequate to control for acute toxicity. There are no requirements for whole effluent toxicity for acute toxicity in the draft permit.

At this time, there is inadequate information to assess whether the discharge of the combined cannery effluent has a reasonable potential to cause, or contribute to an

excursion above the narrative water quality criterion for chronic toxicity. The draft permit proposes as special study to assess chronic toxicity of the combined effluents (see **PART VII - SPECIAL CONDITIONS**).

2. **Application of Mixing Zones and Dilution Credits.** The CWA directs States to adopt water quality standards. Pursuant to 40 CFR 131.13, States are authorized to adopt general policies, such as mixing zones, to implement State water quality standards. Section 24.0207 of ASWQS allow the use of mixing zones for dischargers that would otherwise exceed water quality criteria for aquatic life, human health, and other water quality criteria at the point of discharge (i.e., end of the pipe). Zones of mixing are granted by the American Samoa EQC upon the finding that no other practicable means of waste treatment and disposal are available. ASWQS define a zone of mixing as a defined portion of the receiving water body around a point source within which specific modifications of applicable water quality standards are permitted by American Samoa EQC (section 24.0201 of ASWQS). Further, as specified in section 24.0207(a), a zone of mixing shall be limited to the smallest area possible as not to interfere with beneficial uses.

As regulatory constructs, mixing zones are areas generally where an effluent discharge undergoes initial dilution, but can sometimes be extended to cover secondary mixing in the ambient water body. Initial dilution is the process that results in rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most industrial wastes discharged from submarine discharge points, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution, in this case, is complete when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

ASWQS have criteria for determining whether a zone of mixing can be granted for point source discharges. These include, but are not limited to, the following:

- For toxic pollutants, the size of any zone of mixing shall not exceed the dimensions and volume of the zone of initial dilution and in no event shall the concentration of a toxic pollutant exceed chronic toxic levels at the boundary of the zone of initial dilution (section 24.0207(b)(6) of ASWQS).<sup>3</sup> Except for limited portions of the zone of initial dilution, acute toxic standards shall be achieved within the zone of initial dilution;
- The narrative standards set forth in section 24.0206(a-d) shall be met at the boundary of the zone of initial dilution. (An example of a narrative standard is that all territorial waters, including open coastal waters, shall be substantially free from substances and conditions or combinations therefore attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other

---

<sup>3</sup>Pursuant to section 24.0201 of ASWQS, zone of initial dilution is defined as the area of a plume where dilution is achieved due to the combined effects of momentum and buoyancy of the effluent discharged from an orifice.

animals, plants and aquatic life or produce undesirable aquatic life. This narrative statement is often referred to as "no toxics in toxic amounts."); and

- Alternate standards may be established within a zone of mixing for those standards set forth at section 24.0206(h), (j), (l), (m), (o), and (p); provided that the standards shall be met at the boundary of the zone of mixing. (Section 24.0206(m) refers to ambient water quality criteria for Pago Pago Harbor, which applies to the proposed discharge.) This area can be larger than the zone of initial dilution.

The existing permit contains mixing zones for total nitrogen, total phosphorus, total ammonia, copper, and zinc. On April 15, 2007, the permittee applied to the American Samoa EQC for a renewal of mixing zones for total nitrogen, total phosphorus, total ammonia, copper, and zinc for Discharge Point No. 001. A subsequent application with a more formal analysis was submitted on June 28, 2007. In the mixing zone re-application, the permittee also requested a new mixing zone for mercury. In the reapplication, the permittee indicated that there have been no changes in diffuser configuration; and that the initial seawater to effluent dilution ratio of 313:1 and farfield transport simulations that were re-modeled on critical conditions in 2001 for the existing permit currently applies. In 2001, the critical initial dilution was re-modeled based on an increase in combined total flow from both canneries from 3.62 to 4.3 MGD. The change resulted in a decrease in a critical initial dilution from 337:1 to 313:1 (gdc 2007). There is no increase in the wastewater flow proposed by the permittee or adjacent COS Samoa Packing Company, Inc. facility to Discharge Point No. 001 that would alter the critical initial dilution factor during the proposed permit period. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request in its entirety. However, on October 28, 2007, the permittee submitted a revised mixing zone request for a larger zone of mixing for total ammonia. On November X, 2007, the American Samoa EQC approved the permittee's revised mixing zone request for total ammonia.

Based on ASEPA's mixing zone approval for the draft permit, EPA re-assessed the availability of dilution in the receiving water for nutrients, total ammonia, copper, zinc, and mercury. The assessment was based on recent effluent and ambient water quality data submitted by the permittee pursuant to requirements of the existing permit. For the nutrients, total phosphorus and total nitrogen, the median concentration in the ambient water was used to determine the availability of dilution since nutrients are not directly toxic to aquatic life but may cause significant impacts, i.e., phytoplankton blooms, in ambient waters due to the overall nutrient enrichment. For toxic pollutants, such as total ammonia, copper, zinc, and mercury, the maximum concentration in the effluent and receiving water was evaluated independently to ensure the protection of aquatic life and human health.

a. **Evaluation of Available Dilution for Total Phosphorus and Total Nitrogen.**

The request for a mixing zone for the nutrients, total phosphorus and total nitrogen, is based on elevated concentrations observed in the effluent. As part of

the permit renewal, EPA assessed the available dilution for total nitrogen and total phosphorus in the receiving water. During January 2002 to December 2005, daily maximum concentrations of total nitrogen in the effluent ranged from 37.0 to 440.0 mg/l, with the highest concentration reported in January 2002. During the same period, daily maximum concentrations of total phosphorus in the effluent ranged from 11.5 to 46.3 mg/l, with the highest concentration reported also in January 2002. Without dilution credits or a mixing zone for nutrients, the discharge would not be able to meet ASWQS of 0.200 or 0.030 mg/l for total nitrogen or total phosphorus, respectively.

To assess assimilative capacity for nutrients in the receiving water, total nitrogen and total phosphorus concentrations collected from March 2001 to August 2005 were evaluated in the water column at the boundary of the ZID (Stations 8 and 8A), boundary of the existing mixing zone for nutrients (Stations 15 and 16), and at the reference site (Station 5). For total nitrogen, review of receiving water monitoring data show concentrations at the boundary of the ZID ranging from 0.035 to 1.264 mg/l, with a median of 0.112 mg/l. At the boundary of the mixing zone for total nitrogen, concentrations ranged from 0.035 to 0.517 mg/l, with a median of 0.11 mg/l. At the reference site, total nitrogen concentrations ranged from 0.035 to 1.11 mg/l, with a median of 0.118 mg/l. For total phosphorus, receiving water monitoring data show concentrations at the boundary of the ZID ranging from at or below the detection limit of 0.005 to 1.1 mg/l, with a median of 0.022 mg/l. Concentrations at the boundary of the mixing zone for total phosphorus ranged from at or below the detection limit to 0.043 mg/l, with a median of 0.02 mg/l. At the reference site, total phosphorus concentrations also ranged at or below the detection limit to 0.071 mg/l, with a median of 0.02 mg/l.

Based on the median concentrations of total nitrogen and total phosphorus in the water column at the boundary of the ZID and nutrient mixing zone, and at the reference site, it appears that there is assimilative capacity in the receiving water for nutrients since median receiving water concentrations are below the water quality criteria.<sup>4</sup> It is important to note that although single concentrations of total nitrogen and total phosphorus were observed above their respective water quality criterion at various depths throughout the water column during the four-year monitoring period, there is no record of algal blooms or any impact to aquatic life due to these elevated concentrations. Furthermore, during the same monitoring period, there was no pattern in the concentrations between the levels of chlorophyll-a, an indicator of algal growth, and elevated concentrations of nutrients. Therefore, it appears that there is assimilative capacity in the receiving water for nutrients.

- b. **Evaluation of Available Dilution for Total Ammonia (as N).** The request for a mixing zone for total ammonia is based on elevated concentrations observed in

---

<sup>4</sup>Assimilative capacity for nutrients was based on the median concentration since ASEPA determines compliance with ambient water quality standards provided in section 24.0210 of ASWQS utilizing the median only.



the effluent. Based on effluent monitoring data from January 2002 to December 2006, daily maximum total ammonia concentrations ranged from 17.0 to 167.3 mg/l. Without dilution credits or a mixing zone for total ammonia, the discharge would not be able to meet ASWQS at the end of the pipe based on the CMC of 2.2 and CCC of 0.33 mg/l of ammonia as nitrogen.<sup>5</sup> Based on receiving water monitoring data (March 2001 to August 2005), concentrations of total ammonia at the reference site ranged from at or below the detection limit of 0.004 to 0.11 mg/l, with a median of 0.005 mg/l. At the boundary of the ZID, total ammonia concentrations ranged from 0.004 to 0.13 mg/l, also with a median of 0.005 mg/l. Since the receiving water concentrations of total ammonia are less than the water quality criteria, there is assimilative capacity in the receiving water for total ammonia.

- c. **Evaluation of Available Dilution for Copper.** The request for a mixing zone for copper is based on elevated concentrations observed in the effluent due to routine cannery operations. During January 2002 to December 2006, daily maximum copper concentrations in the effluent ranged from less than the detection limit of 10 ug/l to 346 ug/l. Without dilution credits or a mixing zone for copper, the discharge would not be able to meet the CMC or CCC at the end of the pipe for copper, which is 4.8 and 3.1 ug/l, respectively.<sup>6</sup> To assess assimilative capacity for copper in the receiving water, copper concentrations were evaluated in the water column at the boundary of the ZID and at the reference site. Receiving water collected from March 2001 to February 2007 at the boundary of the ZID showed concentrations of copper ranging from 0.10 to 1.63 ug/l. At the reference site, copper concentrations ranged from 0.12 to 0.88 ug/l. Since the maximum concentration of copper in the receiving water is below the water quality criteria, there is assimilative capacity in the receiving water for copper.
- d. **Evaluation of Available Dilution for Zinc.** Similar to copper, the request for a mixing zone for zinc is based on elevated concentrations of zinc observed in the effluent due to routine cannery operations. During January 2002 to December 2006, daily maximum zinc concentrations in the effluent ranged from 123 to 4,740 ug/l. Without dilution credits or a mixing zone for zinc, the discharge would not be able to meet the CMC or CCC for zinc, which is 90 and 81 ug/l, respectively. Receiving water collected from March 2001 to February 2007 at the boundary of the ZID showed zinc concentrations of 0.4 to 19.3 ug/l. At the reference station, zinc concentrations ranged from 0.5 to 10.8 ug/l. Since the maximum receiving water concentration of zinc is below the water quality criteria, there is assimilative capacity in the receiving water for zinc.
- e. **Evaluation of Available Dilution for Mercury.** The request for a mixing zone for mercury is based on elevated concentrations of mercury observed in the

---

<sup>5</sup>CMC for ammonia-N are derived from Appendix A of ASWQS and correspond to a pH of 8.2 and temperature of 28 degrees Celsius based on general observations and data collected from ASEPA.

<sup>6</sup>This criterion is based on the CMC for the protection of aquatic life from acute toxicity in saltwater environments.

effluent. From September 2004 through November 2006, five samples of effluent were analyzed for total mercury. During this period, mercury concentrations ranged from 0.064 to 0.27 ug/l. Without dilution credits or a mixing zone for mercury, the discharge would not be able to meet the mercury water quality criterion of 0.05 ug/l at the end of the pipe. To assess assimilative capacity for mercury in the receiving water, mercury concentrations were evaluated in the water column near the outfall (at the boundary of the ZID) and at the reference site. Receiving water monitoring data collected in October 2001 and from February 2006 to February 2007 at the boundary of the ZID showed mercury concentrations ranging from 0.0007 to 0.0193 ug/l. Receiving water monitoring data collected from March 2001 to February 2007 at the reference site showed mercury concentrations ranging from 0.0010 to 0.0466 ug/l. Since receiving water concentrations at the boundary of the ZID and reference site are lower than the ASWQS, it appears that there is an assimilative capacity for mercury in the water column of the receiving water.

3. **Establishing WQBELs.** In accordance with 40 CFR 122.44(d), the draft permit proposes water quality-based effluent limits ("WQBELS") for several pollutants or parameters since EPA has determined, based on effluent data provided by the permittee and the nature of the discharge, that the effluent discharged from the facility causes, has the reasonable potential to cause, or contributes to an exceedance of ASWQS. EPA has determined that effluent from the Starkist Samoa, Inc. facility, when discharged through Discharge Point No. 001, demonstrates reasonable potential to exceed water quality standards for total nitrogen, total phosphorus, total ammonia, copper, zinc, and mercury. Therefore, in accordance with federal regulations, WQBELs for these pollutants are established using the median background concentration determined at the reference site, and with consideration of dilution credits or a mixing zone (as authorized by American Samoa EQC).

The existing permit establishes WQBELs for toxic pollutants using a permit limit derivation procedure which directly implements the acute waste load allocation ("WLA") as a MDL and the chronic WLA as an AML. EPA discourages the use of this approach since effluent variability has not been taken into account and that the possibility exists for the exceedance of the WLA due to effluent variability (section 5.4.2 of EPA's TSD). Rather, EPA recommends the use of a permit limit derivation procedure where the acute, chronic, and human health WLAs are statistically translated into an MDL and AML based on the more stringent acute, chronic, or human health WLA (section 5.4.1 of EPA's TSD). As described in section 5.2.2 of EPA's TSD, WQBELs for NPDES dischargers are established based on the need to maintain effluent quality for a pollutant at a level that will comply with water quality standards even during critical conditions in the receiving water. This level is determined by the WLA for the particular pollutant. The WLA, in turn, dictates the necessary treatment performance level for the pollutant through the calculation of a long-term average ("LTA") to ensure that the WLA is met under critical conditions over a long-term period.

Table 4 - Comparison of Dilution Factors in Existing and Draft Permit used to establish Water Quality-based Effluent Limitations for Discharge Point No. 001 or Joint Cannery Outfall for the StarKist Samoa, Inc. facility.

Parameter	Dilution Factors in Existing Permit	Dilution Factors in Proposed Permit
Total Ammonia (as N)	313:1	313:1
Copper	25:1	25:1
Zinc	25:1	25:1
Mercury	---	40:1

In the draft permit, calculations of permit limitations are based on statistical procedures outlined in section 5.4.1 and 5.4.4 of EPA's TSD and are expressed as a Maximum Daily Limitation ("MDL") or Average Monthly Limitation ("AML"). Where appropriate, mass-based MDLs and AMLs were calculated based on the waste water treatment's design flow of 2.9 MGD. Attachment D provides an example of the permit limit derivation procedure for this discharge. Table 4 provides a summary of dilution factors applied in the existing permit and those approved by American Samoa EQC for application in the draft permit. However, there are no dilution factors that describe the mixing zone total nitrogen and total phosphorus. Rather, an alternative approach was used in the existing permit to determine the mixing zone for nutrients and the same approach applied in the draft permit with a special condition for the permittee to re-evaluate nutrient loading in Pago Pago Harbor. In addition, for all reissued permits, section 402(o) of the CWA and 40 CFR 122.44(l) require WQBELs and other permit conditions to be as stringent as the existing permit unless specific exceptions apply. The draft permit contains no specific exceptions for WQBELs. Table 9 provides a summary of all WQBELs, monitoring frequency, and sample types for each pollutant or parameter in the draft permit that was shown reasonable potential to cause, or contribute to an exceedance of ASWQS.

- a. **pH.** As provided in 40 CFR 408.142, ELGs for tuna processing provide that the pH be within the range 6.0 to 9.0 standard units. Section 24.0205(m) of ASWQS provide that the pH for Pago Pago Harbor shall be 6.5 to 8.6 and be within 0.2 pH units of that which would occur naturally. In accordance with 40 CFR 122.44(d), the more stringent limitation applies. Therefore, the proposed WQBEL for pH is the range of 6.5 to 8.6 standard units.
- b. **Temperature.** Section 24.0206(e) of ASWQS provide that the temperature for all territorial waters shall not deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally and shall not fluctuate more than 1 degree Fahrenheit on an hourly basis or exceed 85 degrees Fahrenheit due to the influence of natural causes. The existing permit established a MDL and AML of 95 and 90 degrees Fahrenheit, respectively. Therefore, the proposed WQBEL for temperature is 95 degrees Fahrenheit for the MDL and 90 degrees Fahrenheit for the AML.

- c. **Total Phosphorus.** The existing permit establishes a zone of mixing larger than the ZID for total phosphorus as allowed by section 24.0206((b)(8) of ASWQS. The existing permit incorporates a zone of mixing defined as either a boundary in a circle with a radius of 1,300 feet from the center of the diffuser, or the 30-foot depth contour, whichever is closer to the diffuser (Attachment E). The diffuser and zone of mixing location and geometry for total phosphorus were designed to meet the assimilative capacity of nutrients in Pago Pago Harbor. Historic mass-loading modeling conducted by the permittee in the early 1990s determined that the mixing zone for nutrients would be able to assimilate 12,000 lbs/month of total phosphorus from the canneries discharges. Model estimates concluded that there was excess capacity for total phosphorus and, therefore, the mixing zone is sized to account for future increases in cannery production and nutrient loading. On July 12, 2007, the American Samoa EQC re-approved the permittee's mixing zone request based on the historic mass loading results for total phosphorus. To date, there has been no estimate of dilution at the edge of the currently established nutrient zone of mixing to adequately determine a waste load allocation for the StarKist Samoa Inc. effluent based on procedures outlined in section 5 of EPA's TSD. Rather, based on historic mass loading modeling results, EPA proposes to re-establish the mass loading effluent limits of 309 and 192 lbs/day, as the MDL and AML, respectively.
- d. **Total Nitrogen.** Similar to total phosphorus, the existing permit establishes the same zone of mixing for total nitrogen. Historic mass-loading modeling conducted by the permittee in the early 1990s determined that a mixing zone for nutrients would be able to assimilate 60,000 lbs/month of total nitrogen from the canneries' discharges. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request to re-establish the existing mixing zone for total nitrogen that was based on a mass loading model and assimilative capacity of the Pago Pago Harbor. Based on historic mass loading modeling results, EPA proposes to re-establish the mass loading effluent limits of 2,100 and 1,200 lbs/day, as the MDL and AML, respectively.
- e. **Total Ammonia.** Appendix A of ASWQS provides ammonia toxicity standards for marine waters, such as Pago Pago Harbor. Based on the aquatic life criteria for acute and chronic ammonia toxicity in saltwater listed in Appendix A and using the general ambient pH of 8.2 and temperature of 28 degrees Celsius within Pago Pago Harbor, EPA calculated a CMC and CCC of 2.2 and 0.33 mg/l of ammonia as nitrogen, respectively. On November X, 2007, the American Samoa EQC approved the permittee's revised mixing zone request of 313:1 dilution for total ammonia. A summary of WQBEL calculations and final effluent limitations for total ammonia are provided in Table 5. With consideration of dilution, EPA proposes a MDL and AML for total ammonia of 167.26 and 83.36 mg/l, respectively, for the protection of the beneficial use of saltwater aquatic life. In addition, EPA proposes a mass-based MDL and AML of 4,045 and 2,016 lbs/day.

Table 5 - WQBEL Calculations for Total Ammonia.

	Acute	Chronic
Aquatic Life Criteria, mg/l nitrogen	2.2	0.33
Dilution Credit Authorized by ASEQC	313:1	313:1
Background Concentration, mg/l <sup>1</sup>	0.005	0.005
WLA, mg/l	689.23	102.05
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, mg/l	221.24	53.78
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	--	3.11
MDL, mg/l	--	167.26
MDL, lbs/day	--	4,045
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	--	1.55
AML, mg/l	--	83.36
AML, lbs/day	--	2,016

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

- f. **Copper.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002b or the most recent version, except as may be allowed by a zone of mixing as specified in section 24.0207. The more stringent of the criteria for copper is the aquatic life criteria. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 25:1 dilution for copper. A summary of WQBEL calculations and final effluent limitations for copper are provided in Table 6. With consideration of dilution, EPA proposes a MDL and AML of 117.22 and 58.42 ug/l, respectively, for copper. In addition, EPA proposes a mass-based MDL and AML of 2.84 and 1.41 lbs/day.
- g. **Zinc.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002b or the most recent version, except as may be allowed by a zone of mixing specified in section 24.0207 of ASWQS. The more stringent of the criteria for zinc is the aquatic life criteria. On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 25:1 for zinc. A summary of the WQBEL calculations and final MDL and AML for zinc are provided in Table 7. With consideration of dilution, EPA proposes a MDL and AML of 2,284 and 1,138 ug/l, respectively, for zinc. In addition, EPA proposed a mass-based MDL and AML of 55.24 and 27.52 lbs/day.

Table 6 - WQBEL Calculations for Copper.

	Acute	Chronic
Aquatic Life Criteria, ug/l	4.8	3.1
Dilution Credit Authorized by ASEQC	25:1	25:1
Background Concentration, ug/l <sup>1</sup>	0.296	0.296
WLA, ug/l	117.4	73.2
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, ug/l	37.69	38.58
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11	--
MDL, ug/l	117.22	--
MDL, lbs/day	2.84	--
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	1.55	--
AML, ug/l	58.42	--
AML, lbs/day	1.41	--

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

Table 7 - WQBEL Calculations for Zinc.

	Acute	Chronic
Aquatic Life Criteria, ug/l	90	81
Dilution Credit Authorized by ASEQC	25:1	25:1
Background Concentration, ug/l <sup>1</sup>	2.093	2.093
WLA, ug/l	2,287.675	2,028.675
WLA Multiplier (99 <sup>th</sup> %)	0.321	0.527
LTA, ug/l	734.34	1,069.11
LTA <sub>MDL</sub> Multiplier (99 <sup>th</sup> %)	3.11	--
MDL, ug/l	2,284	--
MDL, lbs/day	55.24	--
LTA <sub>AML</sub> Multiplier (95 <sup>th</sup> %) <sup>2</sup>	1.55	--
AML, ug/l	1,138	--
AML, lbs/day	27.52	--

<sup>1</sup>Background concentration based on the median of the combined spatial and temporal measurements taken at the reference site from March 2001 to August 2005

<sup>2</sup>LTA multiplier based on sampling frequency of four times per month per section 5.5.3 of EPA's TSD

- h. **Total Mercury.** Section 24.0206(g)(3) of ASWQS state that for all embayments, such as Pago Pago Harbor, the concentration of toxic pollutants shall not exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002 or the most recent version, except as may be allowed by a zone of mixing specified in section 24.0207 of ASWQS. The more stringent of the criteria for mercury is the human health criteria. Section 24.0206(j) of ASWQS provide that the water column concentration of mercury shall not exceed 0.05 ug/l, except as may be allowed by a zone of mixing (section 24.0207 of ASWQS). On July 12, 2007, the American Samoa EQC approved the permittee's mixing zone request of 40:1

Table 8 - WQBEL Calculations for Mercury.

	Human Health
Water Column Criterion, ug/l	0.05
Dilution Credit Authorized by ASEPA	40:1
Background Concentration, ug/l <sup>1</sup>	0.0062
WLA, ug/l	1.802
AML = WLA, ug/l <sup>2</sup>	1.80
AML = WLA, lbs/day	0.04
AML Multiplier (95 <sup>th</sup> %) <sup>3</sup>	2.62
MDL, ug/l	4.72
MDL, lbs/day	0.11

<sup>1</sup>Background concentration based on the median concentration at reference station

<sup>2</sup>Based on section 5.4.4 of EPA's TSD, EPA Recommendations for Permitting for Human Health Protection

<sup>3</sup>The AML Multiplier was determined from Table 5-3 of EPA's TSD for bioaccumulative pollutants based on the sampling frequency of 30 times per month since water quality criterion is based on chronic 30-day (section 5.5.3 of EPA's TSD).

dilution for total mercury. A summary of the WQBEL calculations and final AML and MDL for total mercury are provided in Table 10. With consideration of dilution, EPA proposes a MDL and AML for mercury of 4.72 and 1.80 ug/l, respectively. In addition, EPA proposes a mass-based MDL and AML of 0.11 and 0.04 lbs/day. This is a new WQBEL.

4. **Compliance with Federal Anti-Backsliding Provisions and American Samoa's Antidegradation Policy for Proposed WQBELS.** Section 402(o) of the CWA prohibits the renewal or reissuance of an NPDES permit that contains WQBELS less stringent than those established in the previous permit, except as provided in the statute. This is referred to as "anti-backsliding." The draft permit proposes numeric WQBELS that are sometimes higher for total ammonia, copper, and zinc than those established in the existing permit. These effluent limitations may be relaxed, following section 402(o)(2)(b)(i) of the CWA, because they are based on new information not available at the time of permit reissuance that would have justified less stringent WQBELS (i.e., the application of revised background concentrations, in conjunction with EPA's recommended limit derivation procedures applied for the first time to this discharge) and since the proposed more stringent numeric average monthly limits for these pollutants will necessitate an overall reduction in mass emission rates to Pago Pago Harbor.

The establishment of less stringent water quality-based effluent limitations for the maximum daily limitation for total ammonia, copper, and zinc is subject to the anti-degradation requirements set forth in EPA's antidegradation policy at 40 CFR 131.12 and American Samoa's antidegradation policy in section 24.0202 of ASWQS. EPA believes that the proposed more stringent numeric average monthly limits for these pollutants will result in the discharge's overall compliance with water quality standards and federal and territorial antidegradation provisions.

Table 9 - Proposed effluent limitations and monitoring, monitoring frequency, and sample type for each pollutant or parameter for Discharge Outfall No. 001 for the StarKist Samoa, Inc. facility.

Parameter	Units	Existing Permit Effluent Limitations		Draft Permit Effluent Limitations <sup>1</sup>		Monitoring Requirements	
		Average Monthly	Maximum Daily	Average Monthly	Maximum Daily	Monitoring Frequency	Sample Type
Flow Rate	MGD	--	2.9	--	--	Continuous	Metered
pH	std. units	6.5	8.6	6.5 <sup>2</sup>	8.6 <sup>3</sup>	Continuous	Continuous
Temperature	°F	90	95	90	95	Continuous	Continuous
Biological Oxygen Demand	mg/l	--	--	--	--	Once/Week	24-hr Composite
Total Suspended Solids	lbs/day	2,996	7,536	3,960	9,960	Once/Week	24-hr Composite
Oil and Grease	lbs/day	763	1,907	1,008	2,520	Once/Week	Grab
Total Nitrogen	lbs/day	1,200	2,100	1,200	2,100	2x/Week <sup>4</sup>	24-hr Composite
Total Phosphorus	lbs/day	192	309	192	309	2x/Week	24-hr Composite
Total Ammonia (as N)	mg/l	--	133	83.36	167.26	Once/Week	24-hr Composite
	lbs/day	--	--	2,016	4,045	Once/Week	24-hr Composite
Mercury (total recoverable)	ug/l	--	--	1.80	4.72	Semi-Annual	24-hr Composite
	lbs/day	--	--	0.04	0.11	Semi-Annual	24-hr Composite
Copper (total recoverable)	ug/l	66	108	58.42	117.22	Semi-Annual	24-hr Composite
	lbs/day	--	--	1.41	2.84	Semi-Annual	24-hr Composite
Zinc (total recoverable)	ug/l	1,545	1,770	1,138	2,284	Semi-Annual	24-hr Composite
	lbs/day	--	--	27.52	55.24	Semi-Annual	24-hr Composite

<sup>1</sup>Mass-based effluent limitations for total ammonia, total mercury, copper, and zinc based on the facility's design flow of 2.9 MGD

<sup>2</sup>Instantaneous Minimum

<sup>3</sup>Instantaneous Maximum

<sup>4</sup>Monitoring frequency based on sampling 2x per week for total nitrogen and total phosphorus means 24-hour composite samples are collected twice on production days only during a 7-day period.



## **PART V – DETERMINATION OF NARRATIVE WATER QUALITY-BASED EFFLUENT LIMITS**

Section 24.0206 of ASWQS contain narrative water quality standards that apply to all territorial waters including but not limited to fresh surface waters, ground waters, embayments, open coastal waters, and oceanic waters of the Territory.

The draft permit proposes the following narrative water quality-based effluent limits in the receiving water based on narrative ASWQS:

- A. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce objectionable color, odor, or taste, either of itself or in combinations, or in the biota;
- B. The discharge shall be substantially free from visible floating materials, grease, oil, scum, foam, and other floating material attributable to sewage, industrial wastes, or other activities of man;
- C. The discharge shall be substantially free from materials attributable to sewage, industrial wastes, or other activities of man that will produce visible turbidity or settle to form objectionable deposits;
- D. The discharge shall be substantially free from substances and conditions or combinations thereof attributable to sewage, industrial wastes, or other activities of man which may be toxic to humans, other animals, plants, and aquatic life or produce undesirable aquatic life;
- E. The discharge shall not cause the temperature in the receiving water deviate more than 1.5 degrees Fahrenheit from conditions which would occur naturally and shall not fluctuate more than 1 degree Fahrenheit on an hourly basis or exceed 85 degrees Fahrenheit due to the influence of other than natural causes;
- F. The discharge shall not cause the concentration of toxic pollutants in the receiving water to exceed the more stringent of the aquatic life criteria for marine waters or the human health concentration criteria for consumption of organisms found in EPA 2002 or the more recent version;
- G. The discharge shall not cause the turbidity in the receiving water to exceed 0.75 Nephelometric Units;
- H. The discharge shall not cause the light penetration depth to be less than 65.0 feet. The light penetration depth in Pago Pago Harbor shall be 65.0 feet, which shall be exceeded fifty percent of the time; and

- I. The discharge shall not cause the concentration of dissolved oxygen to be less than 70 percent of saturation or less than 5.0 mg/l. If the natural level of dissolved oxygen is less than 5.0 mg/l, the natural level shall become the standard.

The draft permit proposes the following narrative water quality-based effluent limits at the boundary of the zone of mixing for mercury based on narrative ASWQS:

- A. The discharge shall not cause the water column concentration of mercury to exceed 0.05 ug/l.

The draft permit proposes the following narrative water quality-based effluent limits at the boundary of the zone of mixing for nutrients based on narrative ASWQS:

- A. The discharge shall not cause the total phosphorus concentration in the receiving water beyond the boundary of the zone of mixing to exceed 30.0 ug/l as phosphorus;
- B. The discharge shall not cause the total nitrogen concentration in the receiving water beyond the boundary of the zone of mixing to exceed 200.0 ug/l as nitrogen; and
- C. The discharge shall not cause the concentration of chlorophyll-*a* to exceed 1.0 ug/l.

## **PART VI - MONITORING AND REPORTING REQUIREMENTS**

The draft permit requires the permittee to continue to monitor for pollutants or parameters with technology-based effluent limits (i.e., total suspended solids and oil and grease) and water quality-based effluent limits (i.e., pH, copper, zinc, etc.) in the effluent for the duration of the permit term.

### **A. Effluent Monitoring and Reporting**

The permittee shall conduct effluent monitoring to evaluate compliance with the draft permit conditions. The permittee shall perform all monitoring, sampling and analyses in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the draft permit. All monitoring data shall be reported on DMR forms and submitted quarterly or semi-annually, as specified in the draft permit.

### **B. Priority Toxic Pollutants Scan**

A Priority Toxics Pollutants scan shall be conducted during the fifth year of the five-year permit term to ensure that the discharge does not contain toxic pollutants in concentrations that may cause a violation of water quality standards. The permittee shall perform all effluent sampling and analyses for the priority pollutants scan in accordance with the methods described in the most recent edition of 40 CFR 136, unless otherwise specified in the draft permit or EPA. 40 CFR 131.36 provides a complete list of Priority Toxic Pollutants.

## **PART VII - STANDARD CONDITIONS**

### **A. Reopenor Provision**

In accordance with 40 CFR 122 and 124, this permit may be modified by EPA to include effluent limits, monitoring, or other conditions to implement new regulations, including EPA-approved water quality standards; or to address new information indicating the presence of effluent toxicity or the reasonable potential for the discharge to cause or contribute to exceedances of water quality standards.

### **B. Standard Provisions**

The draft permit requires the permittee to comply with EPA Region IX Standard Federal NPDES Permit Conditions, dated July 1, 2001.

## **PART VIII - SPECIAL CONDITIONS**

### **A. Development and Implementation of Best Management Practices**

Pursuant to 40 CFR 122.44(k)(4), EPA may impose Best Management Practices ("BMPs") which are "reasonably necessary...to carry out the purposes of the Act." The pollution prevention requirements or BMPs proposed in the draft permit operate as technology-based limitations on effluent discharges that reflect the application of Best Available Technology and Best Control Technology. Therefore, the draft permit requires that the permittee develop (or update) and implement a Pollution Prevention Plan with appropriate pollution prevention measures or BMPs designed to prevent pollutants from entering Pago Pago Harbor and other surface waters while performing normal processing operations at the facility.

The permittee shall develop and implement BMPs that are necessary to control total suspended solids and oil and grease.

### **B. Development and Implementation of a Toxic Pollutant Minimization Program**

The permittee is required to develop and implement a Pollutant Minimization Plan. As specified in the draft permit, the permittee must submit a workplan to EPA and ASEPA no later than one year after the effective date of the permit and implement the Pollutant Minimization Plan in year four and five of the five-year permit term. For the purposes of the plan, toxic pollutants include, but are not limited to, copper, zinc, and mercury. Copper, zinc, and mercury have been observed in the effluent at high concentrations due to routine cannery operations. Although mixing zones for these pollutants have been approved by American Samoa EQC, the permittee shall make every effort to identify the sources of these pollutants within the facility and develop a program to minimize their entry into the facility's wastewater and subsequent discharge to the receiving water. The goal of the toxic pollutant minimization program shall be to achieve as soon as

practicable for the discharge to meet water quality standards copper, zinc, and mercury with a minimal mixing zone.

**C. Development and Implementation of Pago Pago Receiving Water Monitoring Program**

Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impact of the discharge on the receiving water. Pursuant to the existing permit, the permittee established a joint Pago Pago Receiving Water Monitoring Program with COS Samoa Packing Company, Inc. that included water column and sediment monitoring, coral reef surveys, and a bioaccumulation fish tissue study throughout Pago Pago Harbor. EPA has reviewed the information collected from this monitoring program and proposes a revised receiving water monitoring program in the draft permit that includes the following requirements:

1. The permittee shall conduct semi-annual receiving water monitoring that corresponds to tradewind and non-tradewind seasons;
2. The permittee shall monitor at the following previously established receiving water monitoring locations the specified pollutant or parameter at three depths, i.e., surface, mid-depth and bottom depth:
  - a. Reference site, Station 5, for monitoring of background concentrations for total phosphorus, total nitrogen, zinc, copper, total mercury, and total ammonia;
  - b. End of the Pipe, Station 14, for monitoring of zinc, copper, total mercury, total ammonia to evaluate mixing zones within the zone of initial dilution;
  - c. Zone of initial dilution, Stations 8 and 8A, for monitoring of zinc, copper, total mercury, and total ammonia to evaluate their respective mixing zones that were authorized for this permit term; Stations 8 and 8A are located at the boundary of the zone of initial dilution;
  - d. Zone of initial dilution, Stations 8 and 8A, for monitoring of light penetration and dissolved oxygen to determine compliance with narrative WQBELs and ASWQS;
  - e. Zone of mixing, Station 16, for monitoring of total phosphorus, total nitrogen, and light penetration to evaluate the size of the mixing zone for nutrients that was authorized for this permit term and to determine compliance with narrative WQBELs; Station 16 is located at the boundary of the zone of mixing;
  - f. All stations at the zone of initial dilution and zone of mixing for monitoring of visible floating materials, grease, oil, scum or foam; and

- g. All stations at the zone of initial dilution, zone of mixing, and reference site vertical profiles of temperature, salinity, light penetration, and dissolved oxygen to determine compliance with narrative WQBELs and/or ASWQS, and for future initial dilution and mixing zone re-analyses if determined necessary by EPA and ASEPA.

#### **D. Assessment of Nutrient Loading and Assimilative Capacity in Pago Pago Harbor**

No dilution factors are currently available to accurately assess the size of the mixing zone for nutrients and establish water quality-based effluent limitations based on statistical procedures outline in EPA's TSD in the draft permit. The proposed effluent limitations for total nitrogen and total phosphorus are re-established in the draft permit from existing permit limitations based on information derived from several mass-based models and subsequent dye studies conducted in the early 1990s. These models determined that a mixing zone boundary set at 1,300 feet from the diffuser, or the 30-foot depth contour, whichever is closer, would be able to assimilate 60,000 lbs/month of total nitrogen and 12,000 lbs/month of total phosphorus from the canneries discharges. For total nitrogen, assuming a 30-day month, approximately 2,000 lbs/day could be discharged between the two canneries, with the discharge still meeting water quality standards. For total phosphorus, approximately 400 lbs/day could be discharged. Consequently, StarKist Samoa Inc. and COS Samoa Packing Company, Inc. agreed to portion the total mass between them, for which permit effluent limitations were established.

Although nutrients discharged from the combined cannery outfall may not be significantly impacting water quality in Pago Pago Harbor based on receiving water monitoring data, EPA believes that it is important to re-assess nutrient loading from the canneries due to the availability of new effluent and water quality data, and advanced modeling applications that have been developed since the early 1990s. The purpose of the assessment is to determine whether the existing mass-based effluent limitations for nutrients are indeed set at the upper bounds of acceptable performance or the WLA. For water quality-based water quality standards, such as those for nutrients approved as part of ASWQS, effluent limits must be based on maintaining the effluent quality at a level that will comply with water quality standards, even during critical conditions in the receiving water (EPA 1991). The level of treatment necessary to meet the water quality standard is determined by the WLA. Once a WLA has been developed, accounting for all appropriate considerations, a water quality-based permit can be derived to enforce the WLA. Currently, is not clear that existing mass-based effluent limitations for nutrients are based on WLAs necessary to protect water quality standards.

The draft permit requires the permittee, in coordination with COS Samoa Packing Company, Inc., to conduct an assessment of nutrient loading and the existing mixing zone for nutrients. The draft permit requires the permittee, in coordination with COS Samoa Packing Company, Inc., to submit a brief workplan (no more than five pages) that describes the techniques and procedures it will use to assess nutrient loading in the receiving water. The draft permit requires that permittee to submit the workplan to EPA and ASEPA no later than one year after the effective date of the permit and that the

assessment is completed no later than the end of the third year of the permit cycle. The final report is due to EPA and ASEPA no later than the end of the third year of the permit cycle.

#### **E. Chronic Toxicity Special Study**

No chronic toxicity data is currently available for the combined cannery effluent discharged from the Joint Cannery Outfall. Since StarKist Samoa Inc. and COS Samoa Packing Company Inc. share the same outfall and, therefore, individually discharge effluent to Discharge Point No. 001, the combined mixture of the effluent shall be evaluated for chronic toxicity. The combined mixture is a more representative sample of the waste water being discharged into the receiving water. Therefore, the draft permit requires that the permittee, in coordination with COS Samoa Packing Company, Inc., to conduct a special study to simulate and evaluate chronic toxicity levels of the combined cannery effluent following initial mixing with the receiving water, under critical conditions. As part of the special study, the permittee, in coordination with COS Samoa Packing Company, Inc., shall conduct semi-annual chronic toxicity tests in accordance with EPA testing procedures described in the draft permit. The purposes of the proposed study are to determine 1) the levels of chronic toxicity in the discharge, 2) the appropriate seawater-to-effluent dilution ratio where the threshold for chronic toxicity is observed using range finding testing procedures, and 3) effluent triggers or limits. The study shall begin within one year of the effective date of the permit and continue for a three year period. Upon completion of the study, study results will be reviewed by EPA and ASEPA and used to develop appropriate monitoring requirements and triggers (i.e., chronic in-stream waste concentration) to assess chronic toxicity of the combined effluents. In addition, the permittee is required to prepare a brief (1-2 pages) Initial Investigation TRE Workplan no later than one year of the effective date of the permit, as specified in the draft permit. The workplan shall include steps the permittee intends to follow if toxicity is measured below the chronic in-stream waste concentration for the combined cannery effluent discharge. The workplan shall be submitted to EPA and ASEPA for review and approval.

### **PART IX - OTHER CONSIDERATIONS UNDER FEDERAL LAW**

#### **A. Impact to Threatened and Endangered Species**

Section 7 of the Endangered Species Act of 1973 (16 U.S.C. § 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the federal agency does not jeopardize the continued existence of a listed or candidate species, or result in the destruction or adverse modification of its habitat. Pago Pago Harbor is considered an embayment that is generally used for recreational and subsistence fishing, boating and mooring activities, aesthetic enjoyment, support and propagation of marine life, industrial water supply. On January 17, 2007, EPA requested informal consultation with the U.S. Fish and Wildlife Service and National Marine Fisheries Service (collectively referred to as "the Services") to identify any federally listed, proposed and candidate endangered or threatened species and designated and proposed critical habitats that occur in Pago Pago

Harbor or in the vicinity of the effluent discharge. As specified in Table 10, the U.S. Fish and Wildlife Service and National Marine Fisheries Service provided a list of endangered and threatened species under their jurisdiction that may be present in the vicinity of the effluent discharged to Pago Pago Harbor. No additional marine species are proposed or are candidates for listing at this time, and no critical habitat has been designated or proposed for any marine protected species around Tutuila, American Samoa.

The effluent discharged from the facility is characterized as industrial processing wastewater that contains primarily fish byproducts. Although effluent monitoring data have shown exceedances of effluent limitations during the previous five-year permitting period (see Table 1), EPA believes that the technology and water quality-based effluent limits in the draft permit will not affect the humpback whale (*Megaptera novaeangliae*), hawksbill turtle (*Eretmochelys imbricate*), or green sea turtle (*Chelonia mydas*). According to the National Marine Fisheries Service, humpback whales only occasionally enter Pago Pago Harbor, and only during their annual migration into the region from June to December, with peak abundances in September and October. In addition, while hawksbill and green sea turtles are known to occur in the area, the National Marine Fisheries Service believes that "the outfall and diffuser location with a depth of approximately 176 feet may be too deep to provide optimal foraging or resting habitat for the turtles" (NOAA 2007).

EPA believes the proposed effluent limits also are not likely to affect the availability or distribution of prey species or produce undesirable aquatic life within Pago Pago Harbor that may impact the humpback whale, hawksbill or green sea turtle. As previously described, technology-based effluent limits are based on ELGs and numerical and narrative water quality-based effluent proposed in the permit are based on ASWQS for the protection of aquatic life uses and human health. Therefore, EPA has determined that reissuance of the NPDES permit for the StarKist Samoa Inc. facility will not affect listed species, such as humpback whales or hawksbill and green sea turtles, or critical habitat.

EPA will provide the Services with copies of this fact sheet and the draft permit during the public notice period. Any comments received from the Services regarding this determination will be considered prior to issuance of the final permit.

Table 10 - List of endangered or threatened species that may occur near the discharge outfall from the StarKist Samoa, Inc. facility.

ESA Endangered or Threatened Species	Activity
Endangered humpback whale ( <i>Megaptera novaeangliae</i> )	Feeding/Swimming
Endangered hawksbill turtle ( <i>Eretmochelys imbricata</i> )	Feeding/Swimming
Threatened green sea turtle ( <i>Chelonia mydas</i> )	Feeding/Swimming

## **B. Impact to Coastal Zones**

The Coastal Zone Management Act ("CZMA") requires that Federal activities and licenses, including Federally permitted activities, must be consistent with an approved state Coastal Management Plan (CZMA Sections 307(c)(1) through (3)). Section 307(c) of the CZMA and implementing regulations at 40 CFR 930 prohibit EPA from issuing a permit for an activity affecting land or water use in the coastal zone until the applicant certifies that the proposed activity complies with the State (or Territory) Coastal Zone Management program, and the State (or Territory) or its designated agency concurs with the certification. On July 5, 2007, the permittee requested a coastal zone consistency certification from the American Samoa Department of Commerce. At this time, EPA has not received the certification. At the time the certification is received, EPA will review the certification and will make any necessary modification to the draft permit to ensure compliance with the American Samoa Coastal Management Plan.

## **C. Impact to Essential Fish Habitat**

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act ("MSA") set forth a number of new mandates for the National Marine Fisheries Service, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish species and habitat. The MSA requires Federal agencies to make a determination on Federal actions that may adversely impact Essential Fish Habitat ("EFH"). The Pago Pago Harbor contains EFH that includes coral reef ecosystems and habitats for precious corals, crustaceans, and the production of eggs and larvae of tropical fish species (NOAA 2007). Since effluent limitations in the draft permit are based on ELGs or water quality standards, EPA has determined that there will be no adverse impacts to the marine environment, including EFH and sensitive marine species and habitats from the issuance of the StarKist Samoa, Inc. NPDES permit. In addition, the draft permit establishes chronic toxicity monitoring using the purple sea urchin, *Strongylocentrotus purpuratus*, (a sensitive marine species) to assess effluent toxicity. On May 15, 2007, EPA requested a general concurrence from the National Marine Fisheries Service for EPA NPDES permitting activities in the Pacific Islands and is currently awaiting a response.

EPA will provide the National Marine Fisheries Service with copies of this fact sheet and the draft permit during the public notice period. Any comments received from the National Marine Fisheries Service regarding this determination will be considered prior to issuance of the final permit.

## **PART X - ADMINISTRATIVE INFORMATION**

### **A. Public Notice**

In accordance with 40 CFR 124.10, the EPA Director shall give public notice that a proposed permit has been prepared under 40 CFR 124.6(d) by mailing a copy of the



notice to the permit applicant and other federal and state agencies, and through publication of a notice in a daily or weekly newspaper within the area affected by the facility. The public notice shall allow at least 30 days for public comment on the proposed permit.

#### **B. Public Comment Period**

In accordance with 40 CFR 124.11 and 12, during the public comment period, any interested person may submit written comments on the proposed permit and may request a public hearing, if no hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. In accordance with 40 CFR 124.13, all persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position by the close of the public comment period.

Comments may be submitted either in person or mailed to:

Regional Administrator  
EPA Region IX  
Pacific Islands Office, CED-6  
75 Hawthorne Street  
San Francisco, California 94105

Director  
ASEPA  
P.O. Box PPA  
Pago Pago, American Samoa 96799

Interested persons may obtain further information, including copies of the permit application, fact sheet, and proposed permit, by contacting Mr. Carl Goldstein at the EPA Region IX address listed above. Copies of the Administrative Record (other than those which EPA Region IX maintains as confidential) are available for public inspection between the hours of 8:00 a.m. and 4:30 p.m., Monday through Friday (excluding federal holidays).

#### **C. Public Hearing**

In accordance with 40 CFR 124.12, the EPA Director shall hold a public hearing whenever she finds, on the basis of requests, a significant degree of public interest in the draft permit. The Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10.

#### **D. Territorial Certification**

In accordance with 40 CFR 124.53, under section 401 of the CWA, EPA may not issue a permit until certification is granted or waived in accordance with that section by the State or Territory in which the discharge originates. Territorial certification under section 401 of the CWA shall be in writing and shall include the conditions necessary to assure compliance with referenced applicable provisions of sections 208(e), 301, 302, 303, 306, and 307 of the CWA and appropriate requirements of Territory law. On July 12, 2007, in conjunction with ASEPA's approval of a mixing zone for the proposed discharge, ASEPA certified that the permittee's discharge was found to be consistent with the protected uses of Pago Pago Harbor, as stated in ASWQS, and the CWA. Further, ASEPA determined that there is reasonable assurance that the discharge will not cause violations of ASWQS.

#### **PART XI - REFERENCES**

ASEPA. 2007. Electronic memo from Peter Peshut, American Samoa Environmental Protection Agency, to Sara Greiner, U.S. Environmental Protection Agency on June 22, 2007.

EPA. 1991. Technical Support Document for Water Quality-based Toxics Control. Prepared by EPA, Office of Water Enforcement and Permits, in March 1991. EPA/505/2-90-001.

EPA. 2002. National Recommended Water Quality Criteria. Office of Water, EPA. EPA/822/R-02/047.

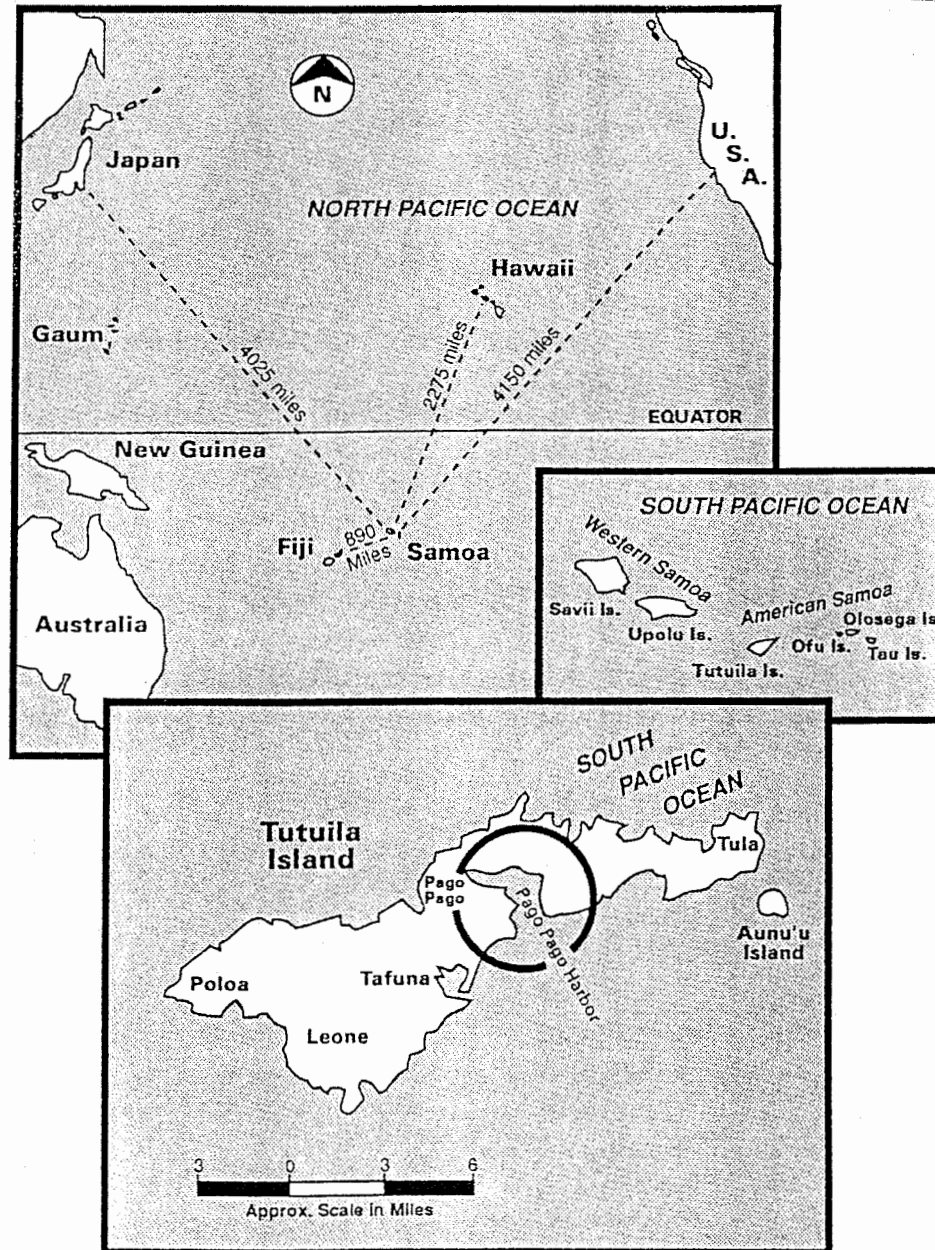
gdc. 2007. Request for Water Quality Certification and the Definition of Mixing Zone. Submitted to American Samoa Environmental Protection Agency by StarKist Samoa (NPDES Permit AS0000019) and COS Samoa Packing (NPDES Permit AS0000027) on June 28, 2007.

NOAA. 2007. Letter from National Oceanic Atmospheric Administration, National Marine Fisheries Service, to EPA Region IX, dated March 15, 2007.

#### **PART XII - ATTACHMENTS**

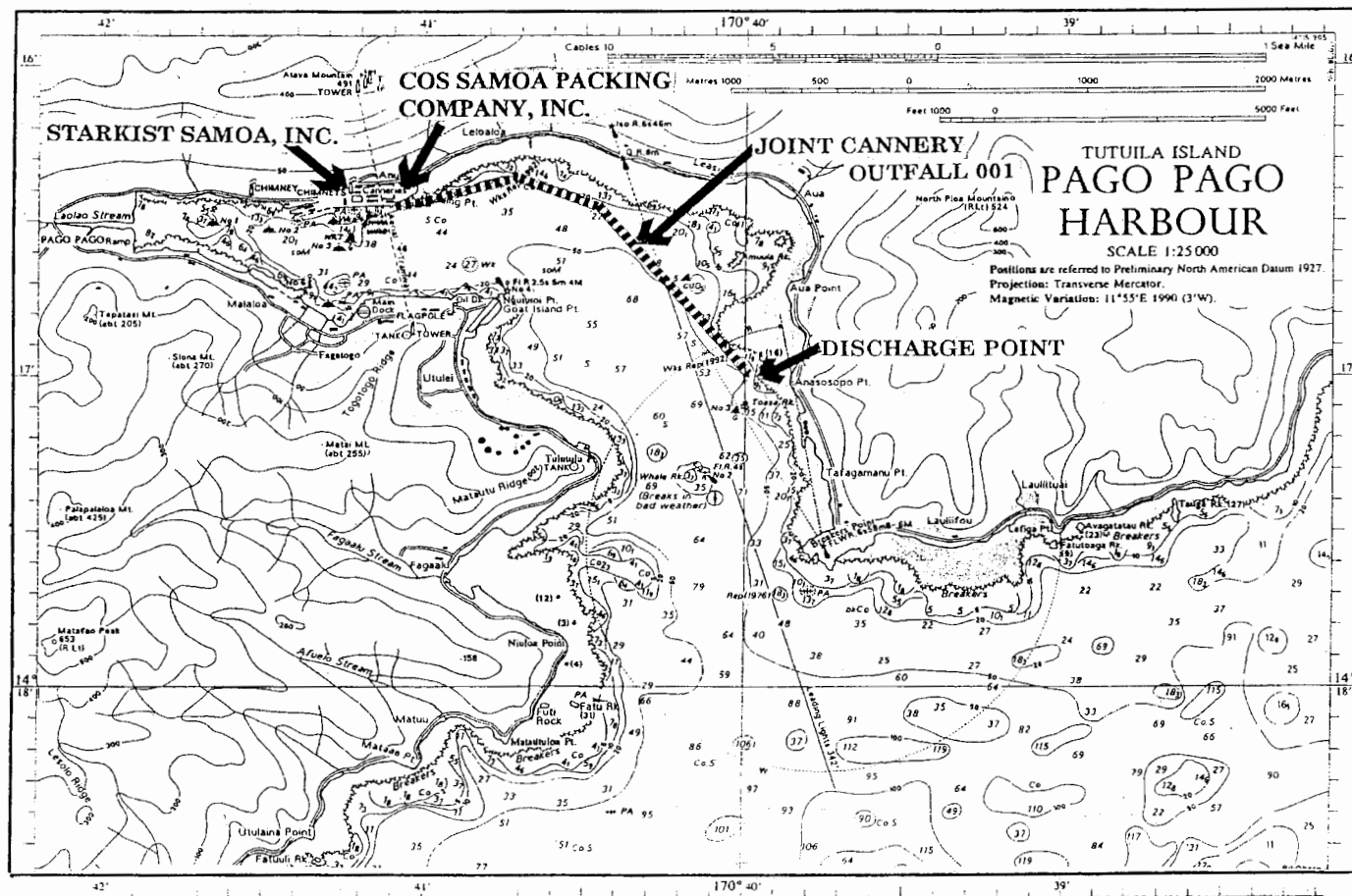
## ATTACHMENT A

### Location of American Samoa and the Island of Tutuila



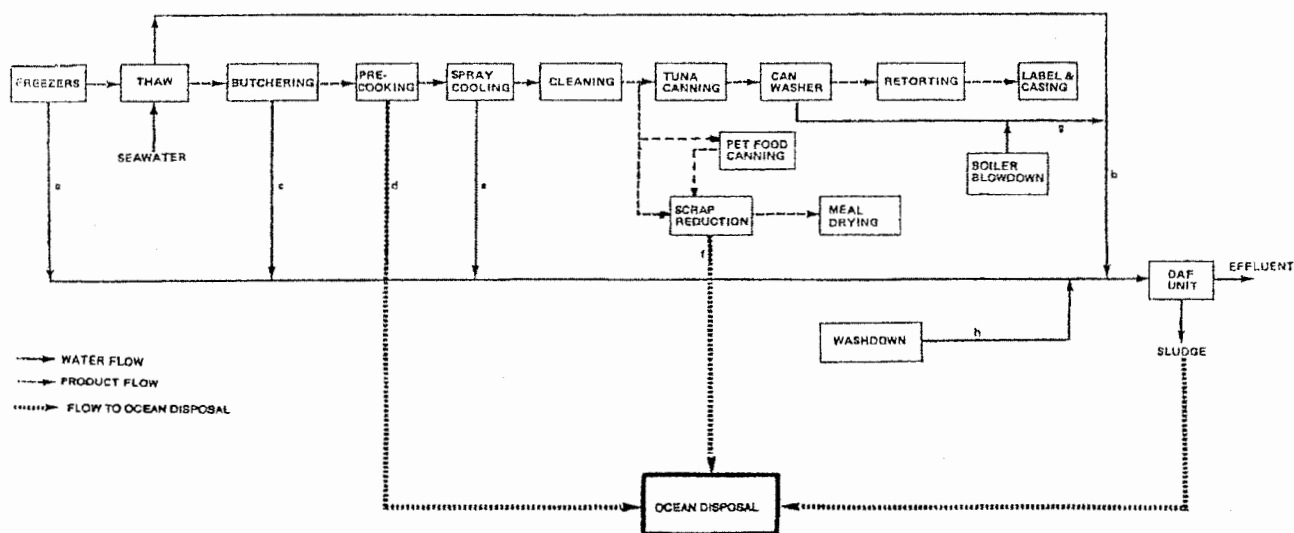
## ATTACHMENT B

### Location of StarKist Samoa, Inc. and COS Samoa Packing Company, Inc. and the Joint Cannery Outfall No. 001 in Pago Pago Harbor.



## ATTACHMENT C

### Wastewater flow diagram for the StarKist Samoa, Inc. facility.



WATER FLOW DIAGRAM  
STARKIST SAMOA, INC.  
(NPDES Permit Form 20, Item (IA.))

## ATTACHMENT D

### Calculations for Water Quality-based Effluent Limitations

In accordance with EPA's Technical Support Document for Water Quality-based Toxics Control ("TSD"), EPA calculated water quality-based effluent limitations for the draft permit using the following statistical procedures. Using copper as an example, the following demonstrates how water quality based effluent limitations were established for the StarKist Samoa, Inc. NPDES permit.

**Step 1:** For each constituent requiring an effluent limit, identify the applicable water quality criteria. For each criterion, determine the effluent concentration or waste load allocation ("WLA") using the following steady state equation:

$$WLA = C + D(C - C_a)$$

Where:      C = Applicable water quality criterion  
               D = Dilution Ratio  
               C<sub>a</sub> = Ambient Background Concentration

For copper, the applicable water quality criteria for the protection of aquatic life in saltwater and other parameters include the following,

C<sub>acute</sub> = 4.8 ug/l  
C<sub>chronic</sub> = 3.1 ug/l  
D = 25:1  
C<sub>a</sub> = 0.296 ug/l.

Based on the equation above, the WLA for both acute and chronic are 117.4 and 73.2 ug/l, respectively.

**Step 2:** For each WLA based on aquatic life criterion, determine the long-term average discharge condition ("LTA") by multiplying the WLA by a WLA multiplier. The multiplier is a statistically-based factor that adjusts the WLA to account for effluent variability. The value of the multiplier varies depending on the coefficient of variation ("CV") of the data set and whether it is an acute or chronic criterion. Table 5-1 of EPA's TSD provides pre-calculated WLA multipliers based on the value of the CV and the probability basis (i.e., the 95th or 99th percentile level). As specified in the TSD, a CV of 0.6 is typical of the range of variability of effluents measured by EPA and represents a reasonable degree of relative variability. Therefore, EPA recommends a CV of 0.6 and the 99th percentile when data sets are limited.

$$LTA_{acute} = WLA_{acute} \times WLA \text{ multiplier}_{acute}$$
$$LTA_{chronic} = WLA_{chronic} \times WLA \text{ multiplier}_{chronic}$$

For copper, the following information was used to develop the  $LTA_{acute}$  and  $LTA_{chronic}$  using Table 5-1 of the TSD.

$$WLA_{acute} = 117.4 \text{ ug/l}$$

$$WLA_{chronic} = 73.2 \text{ ug/l}$$

$$WLA \text{ multiplier}_{acute} = 0.321$$

$$WLA \text{ multiplier}_{chronic} = 0.527$$

Thus,

$$LTA_{acute} = 117.4 \times 0.321 = 37.69 \text{ ug/l}$$

$$LTA_{chronic} = 73.2 \times 0.527 = 38.576 \text{ ug/l.}$$

**Step 3:** Select the most limiting (lowest) LTA. For copper, the most limiting LTA was the  $LTA_{acute}$ .

**Step 4.** Calculate the water quality based effluent limits by multiplying the LTA by an AML and MDL multiplier. Water quality based effluent limits are expressed as an Average Monthly Limit ("AML") and Maximum Daily Limit ("MDL"). The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria and the effluent limitation. The value of the multiplier varies depending on the probability, the CV, and the number of samples (AML only). Table 5-2 of the TSD provides pre-calculated AML and MDL multipliers.

$$AML = LTA_{acute} \times \text{AML multiplier}$$

$$MDL = LTA_{acute} \times \text{MDL multiplier}$$

For limited data, the TSD recommends the 95th percentile (n=4) and 99th occurrence probability for the AML and MDL multipliers, respectively. For copper, the following information was used to develop the AML and MDL for aquatic life using Table 5-2 of the TSD.

$$AML = 37.69 \times 1.55 = 58.42 \text{ ug/l}$$

$$MDL = 37.69 \times 3.11 = 117.22 \text{ ug/l}$$

**Step 6:** For mass-based limitations for copper, calculate the mass limit based on the AML and MDL using the maximum daily maximum flow rate of 2.57 MGD, maximum monthly average flow rate of 1.56 MGD, and a standard conversion factor.

$$AML_{mass} = 58.42 \text{ ug/l} \times 2.9 \text{ MGD} \times 0.00834 \text{ lbs/MG/ug/L} = 1.41 \text{ lbs/day}$$

$$MDL_{mass} = 117.22 \text{ ug/l} \times 2.9 \text{ MGD} \times 0.00834 \text{ lbs/MG/ug/L} = 2.84 \text{ lbs/day}$$

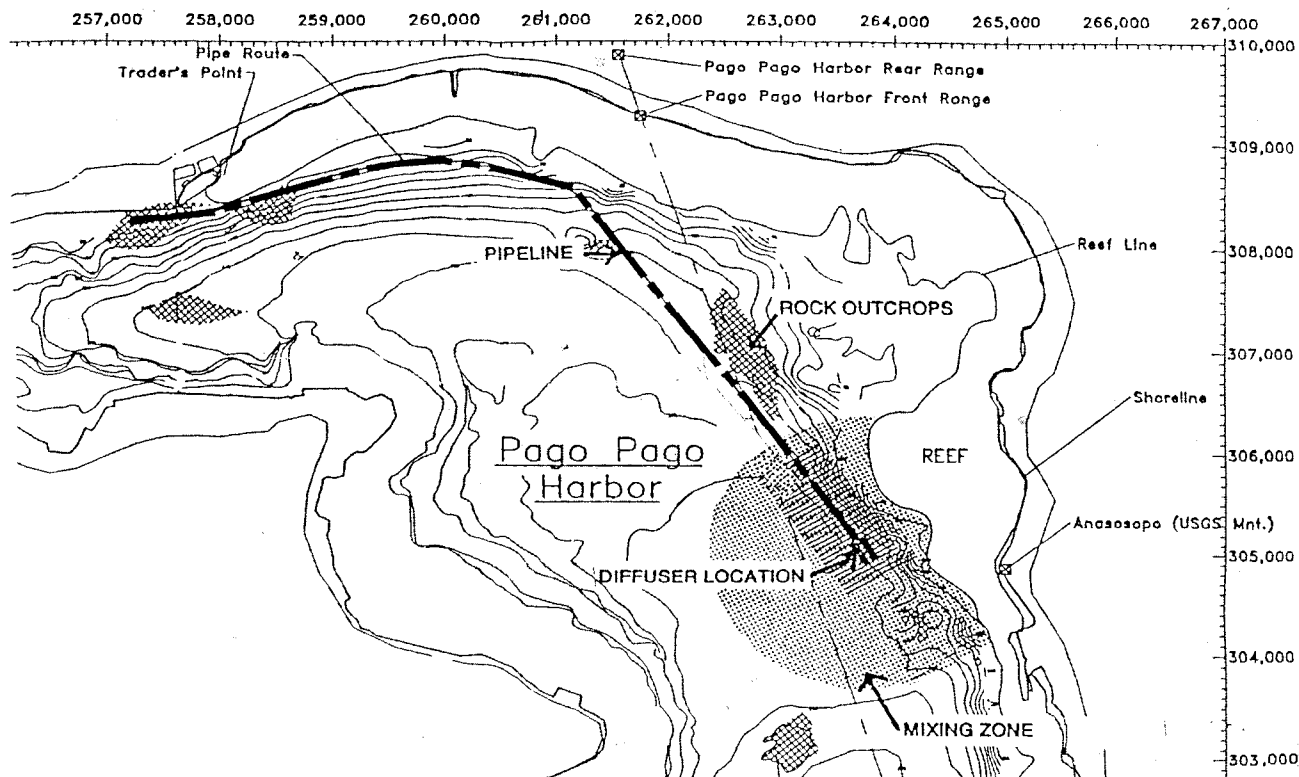
Thus,

$$AML_{mass} = 1.41 \text{ lbs/day}$$

$$MDL_{mass} = 2.84 \text{ lbs/day.}$$

## ATTACHMENT E

**Location of Discharge Point and mixing zone area for total phosphorus and total nitrogen.  
The boundary of the zone of mixing is approximately 1,300 feet from the end  
of the diffuser or the 30 foot contour, whichever is closer.**





**StarKist Samoa, Inc.**

P.O. Box 368

Pago Pago, Tutuila

American Samoa 96799

January 11, 2008

Ms. Genevieve Brighthouse, ASCMP Manager  
Department of Commerce  
Executive Office Building FI-2  
Pago Pago, AS 96799

**Subject: Federal Consistency Certification Application:  
NPDES Permit Renewal for  
Treated Wastewater Discharge to Pago Pago Harbor**

Dear Ms. Brighthouse:

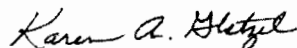
Under Section 307 of the Coastal Management Act (CZMA), non-federal activities that are conducted under Federal licenses or permits are subject to review by the American Samoa Government to insure consistency with CZMA. A proposal to renew the existing NPDES permit for StarKist Samoa, is hereby forwarded for your review and approval. A summary project description is enclosed with this letter.

This letter is to request for certification that the proposed activity comply with the ASCMP and will be conducted in a manner consistent with such program. A set of findings documenting that the proposed activity is consistent with the ASCMP is attached.

We understand that your office will circulate this consistency certification among Territorial and local government agencies that may be affected by the proposed activity. A timely response to this request for certification of compliance would be appreciated in lieu of operating under a deadline.

This request is submitted on behalf of StarKist Samoa, Inc (the Applicant) by **gdc** at the request and direction of the Applicant. Please call Karen Glatzel of Steven Costa at 707-677-0123 if you have any questions.

Sincerely,



Karen A. Glatzel  
glatzel da costa (**gdc**)  
P.O. Box 1238  
Trinidad, CA 95570

Encl: [1] Project Description  
[2] Summary of findings.

## PROJECT DESCRIPTION

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. each own and operate a tuna processing and canning facility located in the town of Atu'u on the Island of Tutuila in the Territory of American Samoa. Each facility receives frozen whole tuna that are processed and canned as tuna fish for human consumption and pet food, and processes fish by-products into fish meal. The StarKist Samoa, Inc. facility has a daily production of 564 tons of tuna processed per day, with a maximum daily production of 614 tons per day. The facility anticipates a maximum average daily production of 600 tons of tuna processed per day during the next permit term. The COS Samoa Packing Company, Inc. facility has an average daily production of 359 tons of tuna processed per day, with a daily maximum of 445 tons per day. During the permit term, the facility anticipates a maximum average daily production of 450 tons of tuna processed per day. Each facility is composed of a main industrial facility and a wastewater treatment facility. The main industrial facility consists of a dock, storage freezers, several fish processing areas, cannery, and shipping area. Each facility's wastewater treatment facility treats production wastewater and on-site storm water collected via its wastewater collection system.

StarKist Samoa, Inc. and the COS Samoa Packing Company, Inc. discharge effluent collected from each facility's wastewater collection system into Pago Pago Harbor via a single outfall shared by the two facilities (referred to as Discharge Outfall No. 001). Discharge Point No. 001, also known as the Joint Cannery Outfall or "JCO", is located approximately 1.5 miles seaward from the facilities. The discharge point terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor of Pago Pago Harbor.

Pago Pago Harbor is a near-shore territorial water of American Samoa and is classified as an embayment that consists of an Inner, Middle and Outer Harbor, with fringing reefs throughout Middle and Outer Harbor areas. Pago Pago Harbor is intended for general, commercial and industrial use, while allowing for protection of aquatic life, aesthetic enjoyment and whole and limited recreational contact. Specific intended uses include the following: recreational and commercial fishing, shipping, boating and berthing, industrial water supply, and support and propagation of marine life.

The discharge outfall has been operating under NPDES permits since October 1992. This is the second renewal of the existing permits. EPA has made a preliminary determination that the draft NPDES permits will have no effect on any federally-listed threatened or endangered species.

The Administrative Record, including the permit applications, fact sheets, draft permits, public comments, and other relevant documents may be obtained by contacting Mr. Carl Goldstein of EPA by telephone at (415) 972-3767 or electronic mail at [goldstein.carl@epa.gov](mailto:goldstein.carl@epa.gov). The draft permits and fact sheets may also be obtained by visiting EPA website: <http://www.epa.gov/region09/water/npdes/pubnotices.html>.

## SUMMARY OF FINDINGS

a. Territorial Administration	This project is subject to local review for consistency with the Costal Zone Management Act
b. Village Development	Not applicable
c. Shoreline Development	None
d. Coastal Hazard	None
e. Fisheries Development	No effect
f. Slope Erosion	No effect
g. Major Facility Siting	Not applicable
h. Agricultural Development	Not applicable
i. Reef Protection	No construction is involved. The discharge is at a water depth of 176 feet. Studies conducted under previous permits have shown no degradation or detrimental effects to adjacent reef areas in Pago Pago Harbor.
j. Recreation/Shoreline Access	No effect
k. Water Quality	Monitoring done under the previous permits have demonstrated no detrimental effect on water quality. Monitoring will continue under the new permit
l. Marine Resources	No effect anticipated based on comprehensive and extensive studies conducted under previous permits
m. Drinking Water Quality	Not applicable
n. Unique Areas	Not applicable
o. Archaeological/Cultural/Historical Resources	Not applicable
p. Special Areas	Not applicable



Alexis Strauss  
Director  
Water Division  
EPA Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

**RE: NPDES Permit Renewal Application for StarKist Samoa (AS0000019)**

Dear Director Strauss:

Enclosed please find completed Form 1 and Form 2C for the renewal of the existing NPDES Permit for StarKist Samoa, which expires on January 23, 2006. StarKist Samoa has performed a substantial and significant amount of effluent and receiving water monitoring during the term of the existing permit. Based on these data StarKist Samoa believes the current level of monitoring can be reduced without compromising the purpose of the monitoring. The proposed level of future monitoring will continue to maintain an appropriate level of environmental protection for the receiving water. Based on the monitoring data StarKist Samoa recommends that the renewal permit conditions be established as described below in this letter.

Our consultant, CH2M HILL, is preparing a comprehensive review of these data and a Technical Support Document supporting these recommendations will be provided to you and to American Samoa Environmental Protection Agency. This document will also support the application for a Water Quality Certificate and Definition of Mixing Zones that will be submitted to the American Samoa Environmental Quality Commission prior to 120 days before the current NPDES permit expires.

***Outfall Description***

StarKist Samoa and Samoa Packing canneries, in American Samoa, discharge treated fish process wastewater (without the high strength waste component) through a shared single outfall and diffuser, the Joint Cannery Outfall (JCO). The JCO is located in Pago Pago Harbor approximately 8400 feet seaward from the previous cannery discharge points and began operation in February 1992. The JCO terminates in a multiport diffuser at a depth of approximately 176 feet in the Outer Harbor. The JCO diffuser consists of four active and two inactive (intentionally blocked) ports. The JCO discharge is in the center of a mixing zone for total nitrogen (TN) and total phosphorous (TP). Small mixing zones for ammonia, copper, and zinc have also been established within the region of rapid initial dilution.

*John A. Strauss*

Prior to the implementation of high strength waste segregation and use of the JCO, the canneries discharged treated wastewater into the Inner Harbor through two outfalls. These outfalls terminated in about 80 feet of water in open-ended pipes without diffusers. In August 1990 both canneries started high strength waste segregation and offshore ocean disposal of the high strength waste streams (those process streams that are highest in nitrogen, phosphorous, suspended solids, and BOD). The combination of the high strength waste segregation and the use of the JCO have resulted in a markedly improved water quality in Pago Pago Harbor.

Each of the canneries has separate NPDES Permits with effluent limitations and requirements for Pago Pago Harbor receiving water monitoring. The canneries cooperate in implementation of the receiving water monitoring. This application addresses only the NPDES Permit renewal for StarKist Samoa.

### ***Proposed Effluent Limitations (Permit Section A):***

StarKist Samoa proposes that the existing effluent limitations remain as currently established except for the monitoring frequency for copper and zinc. The existing limitations and the discharge conditions for the current permit period are as follows:

- Flow is currently limited to 2.9 mgd as a daily maximum. This value has not been exceeded during the current permit period, with a measured daily maximum flow of 2.42 mgd. There is no limitation for 30-day average flow since the original evaluation done for the present JCO location was based on a continuous flow at the permitted level.
- BOD<sub>5</sub> is currently monitored and reported only without a numerical limitation. There have been no instances of dissolved oxygen suppression in Pago Pago Harbor attributable to the discharge. The American Samoa Water Quality Standard (ASWQS) for dissolved oxygen is consistently met based on receiving water quality monitoring. There is no reason at this time to establish a limitation for BOD.
- Suspended solids loading is limited to a 30-day average of 2996 lbs/day and a daily maximum of 7536 lbs/day. The 30-day average was exceeded once during the permit period during January 2002. The daily maximum was not exceeded over the entire permit period (with a daily maximum of 6521 lbs/day reported in January 2002). The exceedance occurred during a time when the high strength waste, normally disposed of at the permitted ocean dumpsite, was diverted through the JCO. This was done with the permission of EPA because of problems with the vessel used for ocean disposal of high strength waste.
- Oil and grease is limited to a 30-day average of 763 lbs/day and a daily maximum of 1907 lbs/day. The 30-day average limitation was exceeded three times and the daily maximum limitation was exceeded twice during the current permit. In both cases one of the exceedances was during January 2002, when the high strength waste was being discharged through the JCO. The other exceedances appear to be

outliers and in the past two years only one 30-day average exceedance (843 lbs/day) has been reported.

- Total phosphorous is limited to a 30-day average of 192 lbs/day and a daily maximum of 309 lbs/day. The 30-day average limitation and the daily maximum limitation were each exceeded three times. In both cases one of the exceedances was during January 2002. The other exceedances appear to be outliers and the most recent exceedance (daily maximum of 358 lbs/day) was in March 2003.
- Total nitrogen is limited to a 30-day average of 1200 lbs/day and a daily maximum of 2100 lbs/day. The 30-day average limitation was exceeded six times and the daily maximum limitation was exceeded five times during the current permit. In both cases one of the exceedances was during January 2002. However, the most recent exceedance (daily maximum of 2910 lbs/day) was in March 2003, and the limitation has not been exceeded since that time.
- Acute toxicity is monitored and reported only and is discussed in more detail in the recommendations concerning other permit conditions (Permit Condition D. Toxicity) below.
- Total ammonia is limited to a concentration of 133 mg/l as a daily maximum. The only exceedance during the current permit was during January 2002. The receiving water quality monitoring shows that the water quality standard is consistently met.
- Temperature is limited to a 30-day average of 90 °F and a daily maximum of 95°F. The 30-day average was exceeded only once, and only by 1 °F. The daily maximum has been exceeded numerous times, but recently with lower frequency. The last time the daily maximum temperature was exceeded was in June of 2004. Extensive receiving water monitoring using a highly accurate and precise oceanographic vertical profiling instrument has failed to demonstrate any measurable effect of the discharge in the vicinity of the outfall diffuser at a resolution of less than  $\pm 0.1$  °C.
- Total copper is limited to a 30-day average concentration of 66 µg/l and a daily maximum of 108 µg/l. The current permit requires monitoring once per month, so only the daily average limitation can be reasonably compared to the measurements. The daily average value has been exceeded only once during the permit period and the measurement was obviously an outlier and was more than 6 standard deviations above the mean. Without the outlier the average value was 16.9 µg/l. The receiving water monitoring consistently demonstrated copper concentrations well below the ASWQS of 3.1 µg/l in the vicinity of the discharge and throughout the Harbor. Therefore, StarKist Samoa proposes that the monitoring frequency be reduced and that copper be measured concurrently with and using the same composite sample as used for the acute toxicity bioassay testing.

- Total zinc is limited to a 30-day average concentration of 1545 µg/l and a daily maximum of 1770 µg/l. The current permit requires monitoring once per month, so only the daily maximum limitation can be reasonably compared to the measurements. The daily maximum value has been exceeded only once during the permit period and the measurement was obviously an outlier and was more than 6 standard deviations above the mean. Without the outlier the average value was 262 µg/l. The receiving water monitoring consistently demonstrated zinc concentration well below the water quality standard in the vicinity of the discharge and throughout the Harbor. Therefore, StarKist Samoa proposes that the monitoring frequency be reduced and that zinc be measured concurrently with and using the same composite sample as the acute toxicity bioassay testing.
- pH is limited between 6.5 and 8.6 with the condition that the pH cannot remain outside these limits more than 7 hours and 26 minutes in any calendar month and no individual excursion can be more than 60 minutes. Neither the lower or upper criterion has been exceeded for any length of time since March 2002. Receiving water pH, measured by a vertical profiling instrument, has not shown any measurable effect of the discharge, and consistently meets the ASWQS.

### ***Proposed Discharge Specifications (Permit Section B)***

StarKist Samoa proposes that this section stay essentially the same as in the current permit with the exception of removing reference to certain station locations as discussed for Permit Section E (Receiving Water Quality Monitoring Program) below. StarKist Samoa believes the reduction of the number of monitoring stations is justified based on the extensive Pago Pago Harbor receiving water quality data collected during the existing permit period.

### ***Proposed Protected and Prohibited Uses (Permit Section C)***

StarKist Samoa proposes that this section stay the same as in the current permit.

### ***Proposed Toxicity Testing (Permit Section D)***

StarKist Samoa proposes three changes to this section of the permit as follows:

- The test organism should be specified as *Americamysis bahia*. The current permit specifies *Penaeus vannamei* with a provision for using *Mysidopsis bahia* if *P. vannamei* are not available. It is noted that *A. bahia* is the same organism as *M. bahia*, and has recently been renamed. *P. vannamei* has not been available for use in bioassay testing for many years and the data for the effluent is nearly all based on *A. bahia*. Therefore, specification of this organism is a reasonable approach for the new NPDES Permit.

- StarKist Samoa proposes that the frequency of testing be reduced to once per year from twice per year. The database for the bioassay tests extends over the past 12 years and has been consistent for that time period with some indication of improvement in the effluent quality (the data will be summarized in the Technical Support Document). Annual testing is believed adequate for monitoring in the future.
- The dilution series should be specified as 100%, 50%, 25%, 12.5%, and 6.25%. This series appears to be appropriate based on the test conducted during the current permit period. However, provision to adjust this series if necessary should be indicated in the permit language. The permit language recognizes the difficulty in meeting holding times and temperature requirements of the sample and this language should be kept in the new permit.

### ***Proposed Receiving Water Quality Monitoring (Permit Section E)***

A semi-annual Pago Pago Harbor receiving water quality monitoring program has been conducted jointly by StarKist Samoa and Samoa Packing over the period of the current permit. This program extends the monitoring done under the previous permit and other studies done during the feasibility planning of the JCO. The monitoring has also been extended by the additional Harbor monitoring being conducted by the Utulei wastewater treatment plant (WWTP).

The receiving water monitoring consistently demonstrates that ASWQS are generally met throughout Pago Pago Harbor. Occasional excursions above the water quality standards numerical criteria are typically associated with natural events and watershed runoff events not associated with the canneries' discharge. Comparison with the values measured at the reference site outside the Harbor indicates that it is usually impossible to see a measurable effect of the cannery discharge in the water column. Based on the available data StarKist Samoa believes that the receiving water monitoring should be minimized. A minimum monitoring effect could be continued with additional monitoring triggered if results indicate a potential problem. The proposed monitoring is as follows:

- Maintain the current semi-annual monitoring periods to match the two climatic and oceanographic seasons of tradewind and non-tradewind.
- Reduce the number of monitoring stations to five. Station 5 (open coast reference), Stations 8, 8A, and 14 (near discharge), and Station 13 (Inner Harbor reference). The rationale for these stations is that by monitoring those stations closest to the discharge any potential problems would be most easily discerned. Monitoring at three depths at each station, as currently required, would be continued.
- Reduce the parameters monitored as follows:



- Eliminate monitoring for metals except for copper and zinc, which have mixing zone limitations. StarKist Samoa has been monitoring for arsenic, lead, and mercury as well as copper and zinc, for informational purposes. All five metals have consistently been below the water quality standards and the informational monitoring has served its purpose and is no longer required.
- Eliminate the monitoring for nutrients (nitrogen and phosphorous) with the exception of ammonia. Ammonia is retained because there is a mixing zone limitation for this toxic parameter. There are also mixing zone limitations for nutrients including total nitrogen (TN) and total phosphorous (TP). However, by monitoring for chlorophyll-a (to be retained) and light penetration (see item below) the endpoint effects of these nutrients will be monitored. If the chlorophyll-a values increase, this could trigger more extensive monitoring for nutrients to determine the cause of the problem.
- Eliminate monitoring for turbidity (in grab samples) and TSS. Replace the monitoring for these parameters with direct in situ measurement of light penetration using a PAR meter to measure a vertical profile of light penetration. (The current practice of using Secchi depth would be discontinued.) If the light penetration values decrease, this could trigger more extensive monitoring for nutrients to determine the cause of the problem.
- Vertical profiles of temperature, salinity, turbidity, and dissolved oxygen would be continued and measured at each station. However, StarKist Samoa proposes to eliminate vertical profiles of pH since in marine waters this parameter is constrained within a known range. There has been no measurable effect from the discharge, and it can be demonstrated that such an effect will not occur (as described in the Technical Support Document that will be provided as referenced above).

Section D of the current permit contains a trigger for additional studies. StarKist Samoa proposes that this section of the permit be modified so that more extensive monitoring would be defined and the trigger for conducting such monitoring would also be well defined. The additional monitoring would be consistent with the existing monitoring requirements, and would be explicitly described in the permit language. The expanded monitoring could be triggered if water quality standards for copper, zinc, ammonia, or light penetration and chlorophyll-a are not met for two consecutive monitoring episodes at Stations 8 and 8A. Specific proposed permit language will be provided by StarKist Samoa in the Technical Support Document.

### ***Proposed Sediment Monitoring (Permit Section F)***

StarKist Samoa and Samoa Packing have conducted numerous sediment monitoring episodes over the past decade. The monitoring has been aimed at tracking the sediment quality, and its possible effect on water quality, at the location of the previous cannery Inner Harbor outfalls, and in the vicinity of the existing deep water JCO in the Outer Harbor. This monitoring indicates a gradual improvement in Inner Harbor sediments and no degradation for Outer Harbor sediments. These trends are supported by results from ASEPA's recent Sediment Toxicity Study. Sediment changes are generally only discernable over long time periods. Based on the previous results StarKist Samoa proposes that the sediment monitoring frequency and sample set be modified as follows for the renewal permit:

- Sampling will be done once during the permit cycle (at year five of the permit) to determine if any degradation in the sediments near the discharge point can be observed. Based on the past data and the known long-term nature of changes in sediments the reduction in frequency is appropriate. The sediment data proposed will be available for the next round of permit renewal.
- Stations sampled will include Stations OH1 and OH2 (near the diffuser), OH4 (Outer Harbor reference), IH1 (near old cannery outfalls) and IH3 (Inner Harbor Reference). Stations OH3 (near the Utulei WWTP Outfall) and IH2 (central Inner Harbor Channel) have been included in the past for informational purposes. These stations do not directly relate to the past or present cannery operations and the required information collected, to date, is sufficient. Therefore, these two stations are proposed for elimination from the sediment monitoring.
- It is proposed that the same suite of parameters be measured as in the current permit with the following exceptions:
  - Copper and zinc will be measured only at Stations OH1 and OH2. This will provide a comparison to past levels at the stations in the vicinity of the discharge to assess any potential effects of the discharge. Informational monitoring at other stations has served its intended purpose and is no longer required.
  - Mercury, lead, and arsenic have been monitored for informational purposes at all stations. This monitoring has provided the required data and is no longer needed.

### ***Proposed Coral Reef Survey (Permit Condition G)***

StarKist Samoa and Samoa Packing, and more recently the Utulei WWTP, have been conducting periodic coral reef surveys in Pago Pago Harbor since 1991. These surveys, although semi-quantitative, have clearly shown that there has been no further degradation of the coral reefs in the Harbor over that time period since the cannery outfall was removed from the Inner Harbor (At least 1991 data suggests, qualitatively, that

there has been improvement throughout the Harbor. This is also the case in those areas closest to the current JCO discharge point. With the exception of hurricane effects on coral reefs, the only locations in the Harbor under continuing stress for coral reef development are areas adjacent to stream runoff and not associated with the deep cannery JCO discharge.

Existing conditions in the Harbor (not adjacent to stream mouths) are obviously not degrading the health of the coral reef. The cannery discharge and Harbor water quality is not expected to change in the future. Therefore, StarKist Samoa believes that the water quality monitoring proposed above is sufficient to maintain the existing protection of the coral reef and proposes that the coral reef surveys be discontinued for the next five-year permit period. EPA can reinstitute the surveys in the future if conditions or other sources indicate there may be changes in coral reef conditions attributable to water quality factors.

### ***Proposed Other Permit Conditions***

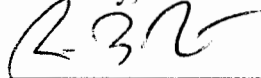
In addition to those sections of the current permit there are a number of other sections in the permit that require studies or monitoring. StarKist Samoa understands that Section H (Fish Tissue Study) and Section I (Sea Turtle Review) were one-time studies in the current permit and will not be required in the renewal permit. Other conditions in the permit address administrative and procedural issues and will remain as currently described or modified and updated by EPA as appropriate.

### ***Proposed Interim Monitoring***

In the interim period between the expiration date of the current permit and renewal date of the NPDES Permit, StarKist Samoa proposes that the suggested changes to the semi-annual receiving water monitoring and effluent toxicity testing be implemented in place of the present monitoring requirements. These changes are outlined above in the sections titled "Proposed Receiving Water Quality Monitoring (Permit Section E)" and "Proposed Toxicity Testing (Permit Section D)".

We look forward to working with EPA and American Samoa EPA in the development of the renewal permit. If you have any questions or require additional data please feel free to contact me at your convenience. Thank you for your time and consideration of this matter,

Sincerely,



---

Brett Butler  
General Manager

cc: Carl Goldstein /USEPA; Peter Peshut /ASEPA; Steve Costa /CH2M HILL

FORM 1 GENERAL		ENVIRONMENTAL PROTECTION AGENCY GENERAL INFORMATION Consolidated Permits Program (Read the "General Instructions" before starting.)		EPA I.D. NUMBER	
I. EPA I.D. NUMBER		PLEASE PLACE LABEL IN THIS SPACE		F	
III. FACILITY NAME				13 14 15	
V. FACILITY MAILING ADDRESS				16 17 18	
VI. FACILITY LOCATION				19 20 21	
				GENERAL INSTRUCTIONS	
				If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.	

## II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)		✓		B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		✓	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)	✓		✓	D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		✓	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)		✓		F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		✓	
G. Do you or will you inject at this facility any produced water or other fluids which are brought to the surface in connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		✓		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		✓	
I. Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		✓		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		✓	

## III. NAME OF FACILITY

1	SKIP	STARKIST SAMOA
---	------	----------------

## IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)	
2	BUTLER, BRETT, GENERAL MANAGER	684	644 1835

## V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX		B. CITY OR TOWN		C. STATE	D. ZIP CODE
3	PO BOX 368	4	PAGO PAGO, TUTUILA	AS	96799

## VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER		B. COUNTY NAME		C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
5		6	MAOPUTASI	7	AS	96799	

## VII. SIC CODES (4-digit, in order of priority)

A. FIRST										B. SECOND									
7	2	0	9	1	(specify)	Processing and canning of tuna fish	7	2	0	4	7	(specify)	Canning of pet food						
C. THIRD										D. FOURTH									
7	2	0	4	8	(specify)	Processing of fish by-products into fish meal	7					(specify)							

## VIII. OPERATOR INFORMATION

A. NAME																									B. Is the name listed in Item VIII-A also the owner?									
8	S	T	A	R	K	I	S	T	S	A	M	O	A												<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO									
C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other", specify.)																									D. PHONE (area code & no.)									
F = FEDERAL	M = PUBLIC (other than federal or state)	P = PRIVATE	O = OTHER (specify)	P	(specify)																				6	8	4	6	4	4	1	8	3	5
E. STREET OR P.O. BOX																																		
P O B O X 3 6 8																																		
F. CITY OR TOWN																									G. STATE		H. ZIP CODE		IX. INDIAN LAND					
P A G O P A G O . T U T U I L A																									A S		9 6 7 9 9		Is the facility located on Indian lands?					
																													<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					

## X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water)										D. PSD (Air Emissions from Proposed Sources)									
9	N									9	P								
B. UIC (Underground Injection of Fluids)										E. OTHER (specify)									
9	U									9									
C. RCRA (Hazardous Wastes)										E. OTHER (specify)									
9	R									9									

## XI. MAP

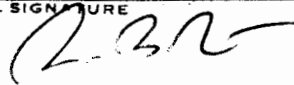
Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

## XII. NATURE OF BUSINESS (provide a brief description)

StarKist Samoa conducts the processing and canning of tuna fish and other ingredients (water, oil, salt) for human consumption, canning of pet food, and the processing of fish by-products into fish meal. StarKist Samoa's DAF treated wastewater is discharged through a outfall and diffuser it shares with the adjoining cannery, Chicken of the Sea Samoa Packing. The joint cannery outfall discharges into marine receiving water, Pago Pago Harbor's outer reach in 176 feet of water.

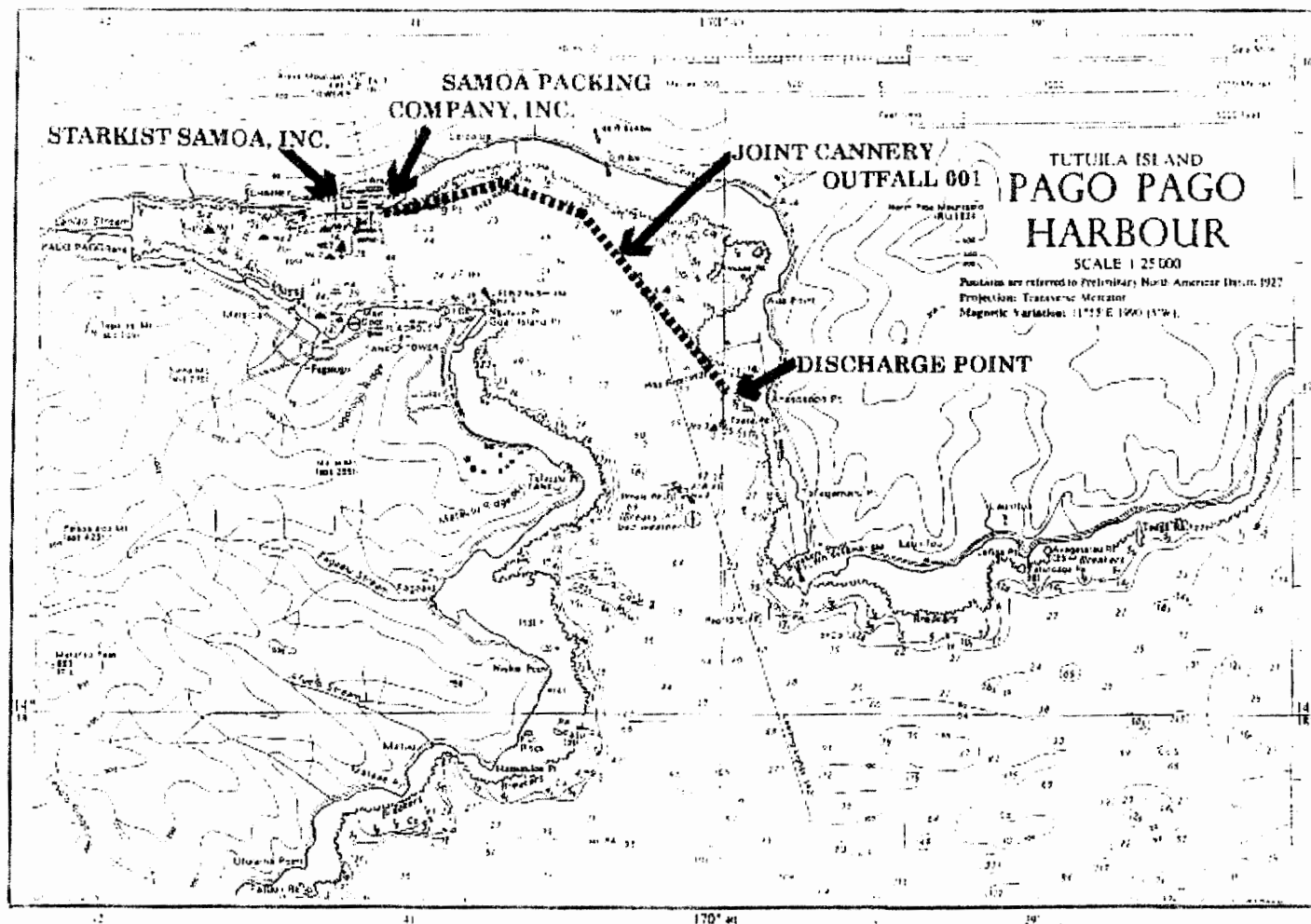
## XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (type or print)	B. SIGNATURE	C. DATE SIGNED
Brett Butler, General Manager		7/25/05

## COMMENTS FOR OFFICIAL USE ONLY

C



LOCATION MAP FOR JOINT CANNERY OUTFALL  
PAGO PAGO HARBOR, AMERICAN SAMOA  
(NPDES Permit General Form 1, Item XI.)

**StarKist Samoa, Inc. - Outfall No. 001**  
**EPA Form 2C NPDES - Item II.B**  
**Table of Flows, Sources, and Treatment Technologies**

Operations Contributing to Flow <sup>1</sup>		Percent of Flow <sup>2</sup>		Treatment	
Item <sup>3</sup>	Description	Total Process Flow	Flow Through Outfall	Description	Codes <sup>4</sup>
a	Freezer Condensate	0.4	0.4	Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B
b	Thaw Water + Can Washer + Boiler Blowdown	63.7	66.6	Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B
c	Butchering	1.7	1.8	Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B
d	Precooker	3.5	0.0	Ocean Disposal <sup>5</sup>	
e	Spray Cooling	4.3	4.5	Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B
f	Press Scrap Reduction	0.8	0.0	Ocean Disposal <sup>5</sup>	
g	Can Washer + Boiler Blowdown	(included in b)		Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B
h	Washdown	25.6	26.7	Rotary Screen plus DAF Unit	1-T, 1-H, 2-C, 4-B

<sup>1</sup> See attached figure per item II.A (Form 2C).

<sup>2</sup> Permitted maximum daily flow is 2.9 mgd, average flow (April 2003 to March 2005) was 1.2 mgd, and maximum daily flow is 2.42 mgd.

<sup>3</sup> Items referenced to figure attached per item II.A (Form 2C).

<sup>4</sup> Codes from Table 2C-1 (Form 2C): 1-T = Screening; 1-H = Flotation; 2-C = Chemical Precipitation; 4-B = Ocean Discharge Through Outfall.

<sup>5</sup> Barged to permitted offshore ocean dumping site - permit OD-93-01 Special



**FORM  
26  
NPDES**



**U.S. ENVIRONMENTAL PROTECTION AGENCY**  
**APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER**  
**EXISTING MANUFACTURING, COMMERCIAL, MINING AND SILVICULTURAL OPERATIONS**  
*Consolidated Permits Program*

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

[illegible]

A. Attach a line drawing showing the water flow through the facility. Indicate sources of intake water, operations contributing wastewater to the effluent, and treatment units labeled to correspond to the more detailed descriptions in Item B. Construct a water balance on the line drawing by showing average flows between intakes, operations, treatment units, and outfalls. If a water balance cannot be determined (e.g., for certain mining activities), provide a pictorial description of the nature and amount of any sources of water and any collection or treatment measures.

8. For each outfall, provide a description of: (1) All operations contributing wastewater to the effluent, including process wastewater, sanitary wastewater, cooling water, and storm water runoff; (2) The average flow contributed by each operation; and (3) The treatment received by the wastewater. Continue on additional sheets if necessary.

1. OUT-FALLING (list)	2. OPERATION(S) CONTRIBUTING FLOW		3. TREATMENT		
	A. OPERATION (list)	B. AVERAGE FLOW (include units)	C. DESCRIPTION	D. LIST CODES FROM TABLE 2C-1	
001	OPERATION ITEM (1)	Percent of Total Flow (2)			
	1. Freezer Condensate	0.4	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	2. Thaw plus Can Washer plus Boiler Blowdown	63.7	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	3. Butchering	1.7	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	4. Pre-cooker	3.5	Ocean Disposal		
	5. Spray Cooling	4.3	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	6. Press-Scrap Reduction	0.8	Ocean Disposal		
	7. Can Washer and Boiler	Included with Item 2	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	8. Wash Down	25.6	Rotary Screen plus DAF Unit	1-T, 1-H	2-C, 4-B
	(1) See Attached Figure per Item II A.				
	(2) See Attached Table on Page 1 B for				
	Percent of Flow Through Outfall				

OFFICIAL USE ONLY (effluent guidelines sub-categories)



CONTINUED FROM THE FRONT

C. Except for storm runoff, leaks, or spills, are any of the discharges described in Items II-A or B intermittent or seasonal?

☐ YES (complete the following table)

☒ NO (go to Section III)

1. OUTFALL NUMBER (list)	2. OPERATION(s) CONTRIBUTING FLOW (list)	3. FREQUENCY		4. FLOW					
		a. DAYS PER WEEK (specify average)	b. MONTHS PER YEAR (specify average)	a. FLOW RATE (in mgd)		b. TOTAL VOLUME (specify with units)		c. DUR- ATION (in days)	
				1. LONG TERM AVERAGE	2. MAXIMUM DAILY	1. LONG TERM AVERAGE	2. MAXIMUM DAILY		

III. PRODUCTION

A. Does an effluent guideline limitation promulgated by EPA under Section 304 of the Clean Water Act apply to your facility?

☒ YES (complete Item III-B)

☐ NO (go to Section IV)

B. Are the limitations in the applicable effluent guideline expressed in terms of production (or other measure of operation)?

☒ YES (complete Item III-C)

☐ NO (go to Section IV)

C. If you answered "yes" to Item III-B, list the quantity which represents an actual measurement of your level of production, expressed in the terms and units used in the applicable effluent guideline, and indicate the affected outfalls.

1. AVERAGE DAILY PRODUCTION			2. AFFECTED OUTFALLS (list outfall numbers)
a. QUANTITY PER DAY	b. UNITS OF MEASURE	c. OPERATION, PRODUCT, MATERIAL, ETC. (specify)	
564	tons/day	Tuna (Average, Feb 2001 - Mar 2005)	001
471-614	tons/day	Tuna (minimum - maximum, Feb 2001 - Mar 2005)	
592	tons/day	Tuna (Average, Apr 2003 - Mar 2005)	
560 - 613	tons/day	Tuna (minimum - maximum, Feb 2001 - Mar 2005)	
540	tons/day	Tuna (Future Projected)	

IV. IMPROVEMENTS

A. Are you now required by any Federal, State or local authority to meet any implementation schedule for the construction, upgrading or operation of waste-water treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

☐ YES (complete the following table)

☒ NO (go to Section V)

1. IDENTIFICATION OF CONDITION, AGREEMENT, ETC.	2. AFFECTED OUTFALLS		3. BRIEF DESCRIPTION
	a. NO.	b. SOURCE OF DISCHARGE	

General rule  
use at least  
recent 3 years  
of data

COM-  
DATE  
A PRO-  
JECTING

B. OPTIONAL: You may attach additional sheets describing any additional water pollution control programs (or other environmental projects which may affect your discharges) you now have underway or which you plan. Indicate whether each program is now underway or planned, and indicate your actual or planned schedules for construction. ☐ MARK "X" IF DESCRIPTION OF ADDITIONAL CONTROL PROGRAMS IS ATTACHED

CONTINUED FROM PAGE 2

**V. INTAKE AND EFFLUENT CHARACTERISTICS**

**A, B, & C:** See instructions before proceeding — Complete one set of tables for each outfall — Annotate the outfall number in the space provided.  
**NOTE:** Tables V-A, V-B, and V-C are included on separate sheets numbered V-1 through V-9.

**D.** Use the space below to list any of the pollutants listed in Table 2c-3 of the instructions, which you know or have reason to believe is discharged or may be discharged from any outfall. For every pollutant you list, briefly describe the reasons you believe it to be present and report any analytical data in your possession.

1. POLLUTANT	2. SOURCE	1. POLLUTANT	2. SOURCE
None	All analytical data has been submitted to EPA under existing NPDES Permit Section D.2.		

**VI. POTENTIAL DISCHARGES NOT COVERED BY ANALYSIS**

Is any pollutant listed in Item V-C a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

☐ YES (list all such pollutants below)☒ NO (go to Item VI-B)

**VII. BIOLOGICAL TOXICITY TESTING DATA**

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

☒ **YES** (Identify the test(s) and describe their purposes below)

☐ **NO** (go to Section VIII)

The NPDES Permit for discharge of the StarKist effluent requires semi-annual acute toxicity tests conducted on a 24-hour composite of both canneries effluent (StarKist Samoa and Samoa Packing) as they share the joint cannery outfall. The last test was conducted in March 2005 which was the ninth semi-annual test required by the current permits and the twenty-fifth test, over twenty-three semi-annual periods, conducted since testing of the discharge of effluent to the Joint Cannery Outfall began in 1993.

The permit conditions require that the bioassay tests be conducted with the white shrimp, *Penaeus vannamei* (postlarvae). In the event *Penaeus vannamei* is not available at the time of the tests, the permit specifies the substitute species, *Mysidopsis bahia*, which now has been renamed *Americamysis bahia*.

**VIII. CONTRACT ANALYSIS INFORMATION**

Were any of the analyses reported in Item V performed by a contract laboratory or consulting firm?

☒ **YES** (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

☐ **NO** (go to Section IX)

A. NAME	B. ADDRESS	C. TELEPHONE (area code & no.)	D. POLLUTANTS ANALYZED (list)
AECOS	970 N. Kalaheo Ave., Suite C311 Kailua, HI 96734	(808) 254-5884	Copper and Zinc
Columbia Analytical Services	1317 South 13th Ave Kelso, WA 98626	360-577-7222	Priority Pollutants

**IX. CERTIFICATION**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

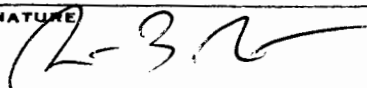
A. NAME & OFFICIAL TITLE (type or print)

Brett Butler, General Manager

B. PHONE NO. (area code & no.)

684-644-1835

C. SIGNATURE



D. DATE SIGNED

2/25/05

PLEASE PRINT OR TYPE IN THE UNSHADED AREAS ONLY. You may report some or all of this information on separate sheets (use the same format) instead of completing these pages. SEE INSTRUCTIONS.

EPA I.D. NUMBER (copy from Item 1 of Form 1)

**V. INTAKE AND EFFLUENT CHARACTERISTICS** (continued from page 3 of Form 2-C)

OUTFALL NO.

**PART A -** You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

1. POLLUTANT	2. EFFLUENT							3. UNITS (specify if blank)		4. INTAKE (optional)		
	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Biochemical Oxygen Demand (BOD)	602.0	8279 (1)	(2)	(2)	427.1	4,277 (3)	24	mg/l	lbs/day			
b. Chemical Oxygen Demand (COD)	1,400	26,755 (1)	(4)	(4)	(4)	(4)	1	mg/l	lbs/day			
c. Total Organic Carbon (TOC)	214	4,090 (1)	(4)	(4)	(4)	(4)	1	mg/l	lbs/day			
d. Total Suspended Solids (TSS)	388.7 (5)	4,939.4 (6)	190.0	2,422.7	101.6	1,330 (3)	94	mg/l	lbs/day			
e. Ammonia (as N)	44.7	539.7 (1)	40.2	491.2 (7)	24.8	248.4 (3)	94	mg/l	lbs/day			
f. Flow	VALUE 2.42 (8)		VALUE 1.56		VALUE 1.20		731	N/A	mgd	VALUE		
g. Temperature (winter)	VALUE 38		VALUE 33 (9)		VALUE 29 (9)		731	°C		VALUE		
h. Temperature (summer)	VALUE (10)		VALUE (10)		VALUE (10)		----	°C		VALUE		
i. pH	MINIMUM 6.5	MAXIMUM 8.4 (11)	MINIMUM (12)	MAXIMUM (12)			731	STANDARD UNITS				

**PART B -** Mark "X" in column 2-a for each pollutant you know or have reason to believe is present. Mark "X" in column 2-b for each pollutant you believe to be absent. If you mark column 2a for any pollutant which is limited either directly, or indirectly but expressly, in an effluent limitations guideline, you must provide the results of at least one analysis for that pollutant. For other pollutants for which you mark column 2a, you must provide quantitative data or an explanation of their presence in your discharge. Complete one table for each outfall. See the instructions for additional details and requirements.

1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. BELIEVED PRESENT	b. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	e. LONG TERM AVERAGE VALUE		f. NO. OF ANALYSES
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
a. Bromide (24959-67-9)	X		21.1						1	mg/l				
b. Chlorine, Total Residual		X												
c. Color	X		(1)											
d. Fecal Coliform		X												
e. Fluoride (16984-48-8)	X		(2)											
f. Nitrate-Nitrite (as N)	X		(3)											

## ITEM V-8 CONTINUED FROM FRONT

ITEM V-B CONTINUED FROM FRONT															
1. POLLUTANT AND CAS NO. (if available)	2. MARK 'X'		3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. RECEIVED PRESENT	b. RECEIVED AS SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	e. LONG TERM AVERAGE VALUE		d. NO. OF ANALYSES	
			(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
g. Nitrogen, Total Organic (as N)	X		99.0 (4)	1,497.7	83.8	1,174.2	69.9	925.8	188	mg/l	lbs/day				
h. Oil and Grease	X		119.8 (5)	1,665.4	62.9	843.2	28.5	374.2	24	mg/l	lbs/day				
i. Phosphorus (as P), Total (7723-14-0)	X		16.6 (6)	235.8	13.6	189.0	12.0	158.9	188	mg/l	lbs/day				
j. Radioactivity											lbs/day				
(1) Alpha, Total		X													
(2) Beta, Total		X													
(3) Radium, Total		X													
(4) Radium 226, Total		X													
k. Sulfate (as SO <sub>4</sub> ) (14808-79-8)	X		933						1	mg/l					
l. Sulfide (as S)	X		4.87						1	mg/l					
m. Sulfite (as SO <sub>3</sub> ) (14265-45-3)	X		55						1	mg/l					
n. Surfactants	X		0.07						1	mg/l					
o. Aluminum, Total (7429-90-5)	X		918						1	ug/l					
p. Barium, Total (7440-39-3)	X		5.5						1	ug/l					
q. Boron, Total (7440-42-8)	X		1,820						1	ug/l					
r. Cobalt, Total (7440-48-4)		X	ND						1	ug/l					
s. Iron, Total (7439-89-6)	X		321						1	ug/l					
t. Magnesium, Total (7439-95-4)	X		(7)												
u. Molybdenum, Total (7439-98-7)		X	ND						1	ug/l					
v. Manganese, Total (7439-96-5)	X		22						1	ug/l					
w. Tin, Total (7440-31-5)		X	ND						1	ug/l					
x. Titanium, Total (7440-32-6)	X		6.1 B						1	ug/l					

EPA I.D. NUMBER (copy from Item 1 of Form 1)	OUTFALL NUMBER
--	----------------

CONTINUED FROM PAGE 3 OF FORM 2-C

**PART C** - If you are a primary industry and this outfall contains process wastewater, refer to Table 2c-2 in the instructions to determine which of the GC/MS fractions you must test for. Mark "X" in column 2-a for all such GC/MS fractions that apply to your industry and for ALL toxic metals, cyanides, and total phenols. If you are not required to mark column 2-a (secondary industries, nonprocess wastewater outfalls, and nonrequired GC/MS fractions), mark "X" in column 2-b for each pollutant you know or have reason to believe is present. Mark "X" in column 2-c for each pollutant you believe is absent. If you mark column 2a for any pollutant, you must provide the results of at least one analysis for that pollutant. If you mark column 2b for any pollutant, you must provide the results of at least one analysis for that pollutant if you know or have reason to believe it will be discharged in concentrations of 10 ppb or greater. If you mark column 2b for acrolein, acrylonitrile, 2,4 dinitrophenol, or 2-methyl-4, 6 dinitrophenol, you must provide the results of at least one analysis for each of these pollutants which you know or have reason to believe that you discharge in concentrations of 100 ppb or greater. Otherwise, for pollutants for which you mark column 2b, you must either submit at least one analysis or briefly describe the reasons the pollutant is expected to be discharged. Note that there are 7 pages to this part; please review each carefully. Complete one table (all 7 pages) for each outfall. See instructions for additional details and requirements.

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	e. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>METALS, CYANIDE, AND TOTAL PHENOLS</b>															
1M. Antimony, Total (7440-36-0)		X		44.5 B						1	ug/l				
2M. Arsenic, Total (7440-38-2)		X		17.5 B						1	ug/l				
3M. Beryllium, Total, (7440-41-7)			X	ND						1	ug/l				
4M. Cadmium, Total (7440-43-9)		X		8.6						1	ug/l				
5M. Chromium, Total (7440-47-3)			X	ND						1	ug/l				
6M. Copper, Total (7440-50-8)		X		346 (8)		(9)	(9)	36.5	0.37	24	ug/l	lbs/day			
7M. Lead, Total (7439-92-1)			X	ND						1	ug/l				
8M. Mercury, Total (7439-97-6)		X		0.27						1	ug/l				
9M. Nickel, Total (7440-02-0)			X	ND						1	ug/l				
10M. Selenium, Total (7782-49-2)		X		5.6 B						1	ug/l				
11M. Silver, Total (7440-22-4)			X	ND						1	ug/l				
12M. Thallium, Total (7440-28-0)			X	ND						1	ug/l				
13M. Zinc, Total (7440-66-6)		X		2,650 (10)		(11)	(11)	331.5	3.32	24	ug/l	lbs/day			
14M. Cyanide, Total (57-12-5)			X	ND						1	ug/l				
15M. Phenols, Total		X		0.32						1	ug/l				
<b>DIOXIN</b>															
2,3,7,8-Tetrachlorodibenzo-P-Dioxin (1784-01-6)			X	DESCRIBE RESULTS											

CONTINUED FROM THE FRONT

CONTINUED FROM THE FRONT															
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	A. TEST- ING RE- QUIR- ED	B. RE- LIEVED PRE- SENT	C. RE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CON- CENT- RATION	b. MASS	e. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - VOLATILE COMPOUNDS															
1V. Acrolein (107-02-8)			X	ND						1	ug/l				
2V. Acrylonitrile (107-13-1)			X	ND						1	ug/l				
3V. Benzene (71-43-2)			X	ND						1	ug/l				
4V. Bis (Chloro- methyl) Ether (542-88-1)			X	ND						1	ug/l				
5V. Bromoform (75-25-2)			X	ND						1	ug/l				
6V. Carbon Tetrachloride (56-23-5)			X	ND						1	ug/l				
7V. Chlorobenzene (106-90-7)			X	ND						1	ug/l				
8V. Chlorodi- bromomethane (124-48-1)			X	ND						1	ug/l				
9V. Chloroethane (75-00-3)			X	ND						1	ug/l				
10V. 2-Chloro- ethylvinyl Ether (110-75-8)			X	ND						1	ug/l				
11V. Chloroform (67-66-3)			X	ND						1	ug/l				
12V. Dichloro- bromomethane (75-27-4)			X	ND						1	ug/l				
13V. Dichloro- difluoromethane (75-71-8)			X	ND						1	ug/l				
14V. 1,1-Dichloro- ethane (75-34-3)			X	ND						1	ug/l				
15V. 1,2-Dichloro- ethane (107-06-2)			X	ND						1	ug/l				
16V. 1,1-Dichloro- ethylene (75-35-4)			X	ND						1	ug/l				
17V. 1,2-Dichloro- propane (78-67-5)			X	ND						1	ug/l				
18V. 1,3-Dichloro- propylene (542-75-8)			X	ND						1	ug/l				
19V. Ethylbenzene (100-41-4)			X	ND						1	ug/l				
20V. Methyl Bromide (74-83-9)			X	ND						1	ug/l				
21V. Methyl Chloride (74-87-3)			X	ND						1	ug/l				

CONTINUED FROM PAGE V-4

1. POLLUTANT AND CAS NUMBER (If available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST ING RE- QUIR- ED	b. RE- LIEVED PRE- SENT	c. RE- LIEVED AB- SENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (If available)		c. LONG TERM AVG. VALUE (If available)		d. NO. OF ANAL- YSES	e. CONCENTRATION	f. MASS	g. LONG TERM AVERAGE VALUE		h. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
<b>GC/MS FRACTION - VOLATILE COMPOUNDS (continued)</b>															
22V. Methylene Chloride (75-09-2)			X	ND						1	ug/l				
23V. 1,1,2,2-Tetrachloroethane (79-34-5)			X	ND						1	ug/l				
24V. Tetrachloroethylene (127-18-4)			X	ND						1	ug/l				
25V. Toluene (108-88-3)		X		0.30 J						1	ug/l				
26V. 1,2-Trans-Dichloroethylene (156-60-5)			X	ND						1	ug/l				
27V. 1,1,1-Trichloroethane (71-55-6)			X	ND						1	ug/l				
28V. 1,1,2-Trichloroethane (79-00-5)			X	ND						1	ug/l				
29V. Trichloroethylene (79-01-6)			X	ND						1	ug/l				
30V. Trichlorofluoromethane (75-69-4)			X	ND						1	ug/l				
31V. Vinyl Chloride (75-01-4)			X	ND						1	ug/l				
<b>GC/MS FRACTION - ACID COMPOUNDS</b>															
1A. 2-Chlorophenol (95-57-8)			X	ND						1	ug/l				
2A. 2,4-Dichlorophenol (120-83-2)			X	ND						1	ug/l				
3A. 2,4-Dimethylphenol (106-67-9)			X	ND						1	ug/l				
4A. 4,6-Dinitro-O-Cresol (834-52-1)			X	ND						1	ug/l				
5A. 2,4-Dinitrophenol (51-28-5)			X	ND						1	ug/l				
6A. 2-Nitrophenol (88-75-5)			X	ND						1	ug/l				
7A. 4-Nitrophenol (100-02-7)			X	ND						1	ug/l				
8A. P-Chloro-M-Cresol (89-50-7)			X	ND						1	ug/l				
9A. Pentachlorophenol (87-86-5)			X	ND						1	ug/l				
10A. Phenol (108-95-2)		X		220						1	ug/l				
11A. 2,4,6-Tri-chlorophenol (88-06-2)			X	ND						1	ug/l				



CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	B. TEST ING RE- QUIR- ED	D. SE- RIEVED PRE- SENT	C. SE- RIEVED AB- SENT	B. MAXIMUM DAILY VALUE		D. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVRG. VALUE (if available)		d. NO. OF ANAL- YSES	B. CONCENTRATION	D. MASS	B. LONG TERM AVERAGE VALUE		D. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS															
1B. Acenaphthene (83-32-9)			X	ND						1	ug/l				
2B. Acenaphthylene (208-96-8)			X	ND						1	ug/l				
3B. Anthracene (120-12-7)			X	ND						1	ug/l				
4B. Benzidine (92-87-5)			X	ND						1	ug/l				
5B. Benzo (a) Anthracene (56-55-3)			X	ND						1	ug/l				
6B. Benzo (a) Pyrene (50-32-8)			X	ND						1	ug/l				
7B. 3,4-Benzo- fluoranthene (206-99-2)			X	ND						1	ug/l				
8B. Benzo (ghi) Perylene (191-24-2)			X	ND						1	ug/l				
9B. Benzo (h) Fluoranthene (207-08-9)			X	ND						1	ug/l				
10B. Bis (3-Chloro- ethoxy) Methane (111-81-1)			X	ND						1	ug/l				
11B. Bis (2-Chloro- ethyl) Ether (111-44-4)			X	ND						1	ug/l				
12B. Bis (2-Chloroisopropyl) Ether (102-60-1)			X	ND						1	ug/l				
13B. Bis (2-Ethylhexyl) Phthalate (117-81-7)			X	ND						1	ug/l				
14B. 4-Bromophenyl Phenyl Ether (101-55-3)			X	ND						1	ug/l				
15B. Butyl Benzyl Phthalate (85-98-7)			X	ND						1	ug/l				
16B. 3-Chloronaphthalene (91-58-7)			X	ND						1	ug/l				
17B. 4-Chlorophenyl Phenyl Ether (7005-72-3)			X	ND						1	ug/l				
18B. Chrysene (218-01-9)			X	ND						1	ug/l				
19B. Dibenzo (a,h) Anthracene (53-70-3)			X	ND						1	ug/l				
20B. 1,2-Dichlorobenzene (95-50-1)			X	ND						1	ug/l				
21B. 1,3-Dichlorobenzene (541-73-1)			X	ND						1	ug/l				

CONTINUED FROM PAGE V-6

CONTINUED FROM PAGE V-6															
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	a. TEST- ING RE- QUIR- ED	b. SE- LIEVED PRE- SENT	c. SE- LIEVED AD- JUT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCENTRATION	b. MASS	e. LONG TERM AVERAGE VALUE		f. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
228. 1,4-Dichlorobenzene (106-46-7)			X	ND						1	ug/l				
238. 1,3-Dichlorobenzene (95-64-1)			X	ND						1	ug/l				
248. Diethyl Phthalate (84-66-2)			X	ND						1	ug/l				
258. Diethyl Phthalate (84-66-2)			X	ND						1	ug/l				
268. Di-N-Butyl Phthalate (84-74-2)			X	ND						1	ug/l				
278. 2,4-Dinitrotoluene (121-14-2)			X	ND						1	ug/l				
288. 2,6-Dinitrotoluene (808-20-2)			X	ND						1	ug/l				
298. Di-N-Octyl Phthalate (117-84-0)			X	ND						1	ug/l				
308. 1,2-Diphenylhydrazine (as Azobenzene) (122-66-7)			X	ND						1	ug/l				
318. Fluoranthene (208-44-0)			X	ND						1	ug/l				
328. Fluorene (88-73-7)			X	ND						1	ug/l				
338. Hexachlorobenzene (118-74-1)			X	ND						1	ug/l				
348. Hexachlorobutadiene (87-68-3)			X	ND						1	ug/l				
358. Hexachlorocyclopentadiene (77-47-4)			X	ND						1	ug/l				
368. Hexachloroethane (67-72-1)			X	ND						1	ug/l				
378. Indeno (1,2,3-cd) Pyrene (193-39-5)			X	ND						1	ug/l				
388. Isophorone (78-59-1)			X	ND						1	ug/l				
398. Naphthalene (91-20-3)			X	ND						1	ug/l				
408. Nitrobenzene (98-95-3)			X	ND						1	ug/l				
418. N-Nitrosodimethylamine (62-75-9)			X	ND						1	ug/l				
428. N-Nitrosodi-N-Propylamine (621-64-7)			X	ND						1	ug/l				

CONTINUED FROM THE FRONT

1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT						4. UNITS		5. INTAKE (optional)			
	ANAL- YSES	D. BE- LIEVED PRE- SENT	C. BE- LIEVED AS- SENT	A. MAXIMUM DAILY VALUE		B. MAXIMUM 30 DAY VALUE (if available)		C. LONG TERM AVG. VALUE (if available)		d. NO. OF ANAL- YSES	a. CONCENTRATION	b. MASS	E. LONG TERM AVERAGE VALUE		b. NO. OF ANAL- YSES
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS	
GC/MS FRACTION - BASE/NEUTRAL COMPOUNDS (continued)															
43B. N-Nitro- sodiphenylamine (86-30-6)			X	ND						1	ug/l				
44B. Phenanthrene (85-01-8)			X	ND						1	ug/l				
45B. Pyrene (129-00-0)			X	ND						1	ug/l				
46B. 1,2,4-Trichlorobenzene (120-82-1)			X	ND						1	ug/l				
GC/MS FRACTION - PESTICIDES															
1P. Aldrin (309-00-2)			X	ND						1	ug/l				
2P. $\alpha$ -BHC (319-84-8)			X	ND						1	ug/l				
3P. $\beta$ -BHC (319-85-7)			X	ND						1	ug/l				
4P. $\gamma$ -BHC (88-69-9)			X	ND						1	ug/l				
5P. $\delta$ -BHC (319-86-8)			X	ND						1	ug/l				
6P. Chlordane (57-74-8)			X	ND						1	ug/l				
7P. 4,4'-DDT (50-29-3)			X	ND						1	ug/l				
8P. 4,4'-DDE (72-85-9)			X	ND						1	ug/l				
9P. 4,4'-DDD (72-84-8)			X	ND						1	ug/l				
10P. Dieldrin (60-57-1)			X	ND						1	ug/l				
11P. $\alpha$ -Endosulfan (115-29-7)			X	ND						1	ug/l				
12P. $\beta$ -Endosulfan (115-29-7)			X	ND						1	ug/l				
13P. Endosulfan Sulfate (1031-07-8)			X	ND						1	ug/l				
14P. Endrin (72-20-8)			X	ND						1	ug/l				
15P. Endrin Aldehyde (7421-93-4)			X	ND						1	ug/l				
16P. Heptachlor (76-44-8)			X	ND						1	ug/l				

CONTINUED FROM PAGE V-8

CONTINUED FROM PAGE 9-5																
1. POLLUTANT AND CAS NUMBER (if available)	2. MARK 'X'			3. EFFLUENT								4. UNITS		5. INTAKE (optional)		
	a. TESTING REQUIRED	b. BELIEVED PRESENT	c. BELIEVED ABSENT	a. MAXIMUM DAILY VALUE		b. MAXIMUM 30 DAY VALUE (if available)		c. LONG TERM AVG. VALUE (if available)		d. NO. OF ANALYSES	a. CONCENTRATION	b. MASS	a. LONG TERM AVERAGE VALUE		b. NO. OF ANALYSES	
				(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS	(1) CONCENTRATION	(2) MASS				(1) CONCENTRATION	(2) MASS		
GC/MS FRACTION - PESTICIDES (continued)																
17P. Heptachlor Epoxide (1024-67-3)			X	ND						1	ug/l					
18P. PCB-1242 (53469-21-9)			X	ND						1	ug/l					
19P. PCB-1254 (11097-89-1)			X	ND						1	ug/l					
20P. PCB-1221 (11104-28-2)			X	ND						1	ug/l					
21P. PCB-1232 (11141-16-5)			X	ND						1	ug/l					
22P. PCB-1248 (12672-29-6)			X	ND						1	ug/l					
23P. PCB-1260 (11096-82-5)			X	ND						1	ug/l					
24P. PCB-1016 (12674-11-2)			X	ND						1	ug/l					
25P. Toxaphene (8001-35-2)			X	ND						1	ug/l					

PAGE V-9

## **Notes**

### **Section V, Part A**

General Notes: Information presented in this section is based on 24 months of data from April 2003 through March 2005 unless otherwise noted. This time period is representative of current discharge based on daily production numbers (see Technical Support Document).

- (1) Mass loading estimated based on the average daily flow on the day the samples were collected. This applies to reported values for BOD, COD, and TOC.
- (2) BOD samples only collected one day per month.
- (3) Long-term average loading calculations were based on long-term average flow.
- (4) COD and TOC concentrations reported are based on single measurements.
- (5) Maximum TSS concentration value (388.7 mg/l) reported is more than 3 standard deviations above the mean, which is an obvious outlier. The next highest value reported was 258 mg/l.
- (6) Maximum TSS loading value reported (4939.4 lbs/day) is more than 3 standard deviations above the mean, which is an obvious outlier. The next highest value reported was 3125.8 lbs/day.
- (7) Maximum monthly average ammonia loading based on daily flows recorded for the three days ammonia was measured.
- (8) Maximum daily flow was more than three standard deviations above the mean and is anomalous. The next highest value reported was 2.00 mgd for the 24-month period considered and 2.09 the entire permit period through March 2005 (51 months).
- (9) Long term average and monthly temperature values are the averages of the daily maximum temperatures for the respective periods.
- (10) The discharge is in a tropical setting and there is no discernable seasonal difference in effluent temperature.
- (11) The maximum pH value of 8.4 is more than three standard deviations above the mean and appears to be an outlier. The next highest value reported was 7.7.
- (12) Monthly averages were not calculated. Daily values were submitted with DMR's.

**Notes**

**Section V, Part B and C**

General Notes: The table below indicates the explanation of the data qualifiers given in Section V, Part B and C. With the exception of data provided for nitrogen, oil and grease, and phosphorus, all data is from a priority pollutant analysis of a 24-hr composite effluent sample collected in September 2004. The priority pollutant scan of effluent is stipulated in Section D.2 of the StarKist Samoa NPDES Permit No. AS 0000019.

Data Qualifiers for StarKist Samoa Effluent		
Constituents	Symbol	Interpretation
All	ND	The compound was analyzed for, but was not detected at or above the MRL/MDL (Method Reporting Limit or the Method Detection Limit)
	ug/l	Unit is actually µg/l, text formatting can't be changed in Form 2C *.pdf file.
Metals	B	The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL

(1) Color is known to be present at low levels but is not considered an important parameter. No analyses have been conducted within the period of the current permit. A color measurement made during the first permit period was reported as <10 ACPU.

(2) Flouride is believed present, even though not tested, as fluoride is a major constituent of seawater. StarKist Samoa uses seawater for thaw water, which is then discharged with the effluent, into seawater.

(3) StarKist Samoa does not measure Nitrate-Nitrite (as N) but rather regularly measures Total Kjeldahl Nitrogen (TKN) and Ammonia, which is reported on the DMRs.

(4) The values reported are for Total Nitrogen. The values provided for nitrogen are from the DMRs and do not include the single value measured in the September 2004 priority pollutant analysis.

(5) Oil and Grease measured in StarKist Samoa's effluent is from organic fish material and not from petroleum based oil and grease. The values provided for oil

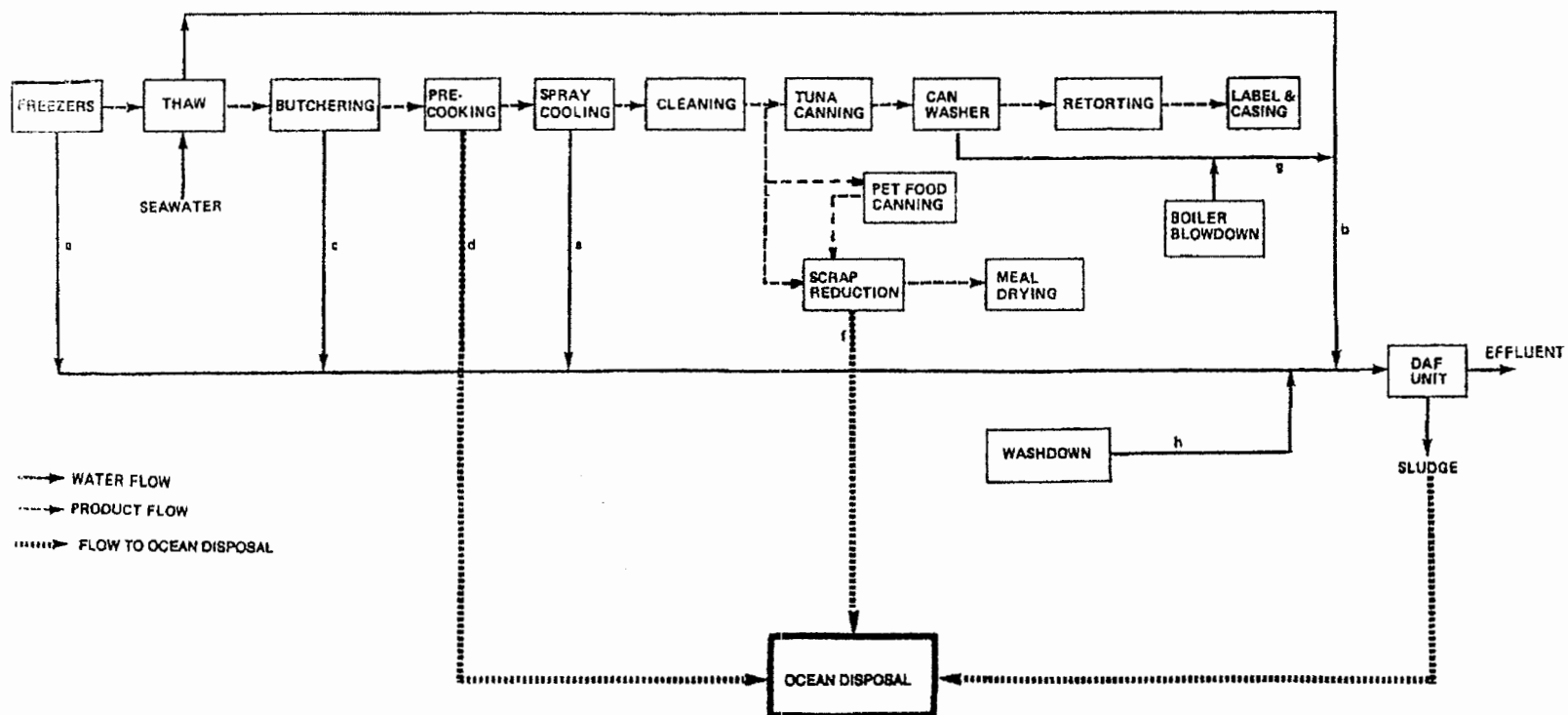
and grease are from the DMRs and do not include the single value measured in the September 2004 priority pollutant analysis.

(6) The values provided for phosphorus are from StarKist Samoa DMRs and do not include the single value measured in the September 2004 priority pollutant analysis.

(7) Total magnesium was not tested in the September 2004 priority pollutant analysis. Magnesium is present in StarKist Samoa's effluent as it is a minor constituent in seawater which is used as thaw water and then is discharged with the effluent, into the seawater receiving water.

(8) The value reported for copper (346 µg/l) is an outlier as it is more than 3 standard deviations from the mean (36.5 µg/l). The next highest copper value is 100.0 µg/l.

(9) The value reported for zinc (2650 µg/l) is an outlier as it is more than 3 standard deviations from the mean (331.5 µg/l). The next highest zinc value is 351.1 µg/l.



WATER FLOW DIAGRAM  
STARKIST SAMOA, INC.  
(NPDES Permit Form 2C, Item IIA.)





**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**  
**REGION IX**  
**Pacific Insular Areas Program**  
**75 Hawthorne Street**  
**San Francisco, CA 94105**

March 26, 2001

Phil Thirkell  
General Manager  
StarKist Samoa, Inc.  
PO Box 368  
Pago Pago, AS 96799

Dear Mr. Thirkell:

Thank you for your earlier letter, dated February 16, 2001. I too appreciated having the opportunity to meet with you and your staff to discuss various EPA concerns that either have direct or indirect involvement for your company. In addition to the questions posed in your letter, a few other questions have arisen, mostly in conversations between your staff and ASEPA, that I will also address.

1. **Can either cannery use the ocean disposal capacity of the other cannery?** Yes, as long as all other conditions of the ocean dumping permit are met. Each cannery is allotted 200,000 gallons on the ocean disposal barge. If either cannery chooses to allow the other cannery to use part of its allotment, that is acceptable, as long as all other conditions of the permit continue to be met.
2. **Can the canneries use 200,000 gallons of any combination of the three waste streams instead of the specified volumes of waste streams in Table 2 of the ocean dumping permit presently in effect?** Yes. The new proposed ocean dumping permit allows any combination of the waste streams. At this time, we find it acceptable to modify (by virtue of this letter) the existing permit to allow this variance.
3. **Can the canneries continue to dispose unprocessed fish waste at the ocean dumping site?** Yes. Ocean disposal of unprocessed fish waste is not regulated by EPA, and it is our understanding that the canneries and ASEPA reached agreement on this many, many years ago.
4. **What is the definition of "Floatables"?** No firm definition at this time. However, we do concur with your view that the temporary flotation of the permitted waste stream is not a "floatable" and as such would not constitute a violation of the permit.
5. **Do the canneries have the option to dispose their processed fish waste 3-5 miles further out to sea from the present ocean disposal site?** No, except for emergency conditions, as

May 12, 2005

In Reply  
Refer To: CED-6

Mr. Joe Carney  
Star-Kist Samoa  
Star-Kist Samoa Tuna Cannery  
PO Box 368  
Pago Pago, AS 96799

Dear Mr. Carney:

RE: EPA Discharge Monitoring Report (DMR) forms for NPDES Permit AS0000019

Dear :

The above referenced permit is classified by the U.S.EPA as a major discharger under the National Pollutant Discharge Elimination System (NPDES). The EPA requires submission of monitoring results as described in NPDES Permit AS0000019. Results are to be submitted on the DMR (Discharge Monitoring Report) form 3320-1 (40 CFR 122.2 & 40 CFR 122.41 (1)(4)(i). Enclosed are forms for the period [Start] - [End], [Year]. The DMR forms must be completed and submitted to the EPA for each reporting period as described in the permit. These forms will be preprinted with discharge limits and supplied annually.

The completed DMR forms shall be submitted to:

**Carl L. Goldstein**  
**Program Manager**  
**Pacific Islands Office (CED-6)**  
**EPA Region 9**  
**75 Hawthorne Street**  
**San Francisco, CA 94105**

**Reporting and Submission Time Periods**

**Reporting and submission time periods for DMRs are as follows: Quarterly submission and reporting periods are defined as standard calendar quarters, January–March, April–June, July–September, and October–December. Semi-annual**

described in the permit. Unfortunately, using an undesignated site, even though “further away”, is not allowed. However, if the canneries are interested in applying for a permit to establish a different ocean disposal site that is further out to sea, EPA Region 9 is receptive to that idea, and would welcome a study proposal from the canneries that would move the ocean disposal site further out to sea.

As part of the permitting process for a new ocean disposal site, the requirements of the National Environmental Policy Act (NEPA) would have to be met. At this time we are hopeful that an EIS would not be necessary, but we cannot make that determination at this time. We can say that a proposal should at least include a drogue study conducted two (2) times in a calendar year (suggest every ½ nautical mile or 1 nautical mile interval from the shoreline to the proposed site), current regime description, dispersion model, and wastewater characterization.

I appreciate your concern, interest, and active participation in preserving and protecting the marine environment in American Samoa. As both ASEPA and EPA Region 9 move forward with their watershed protection plans and Pago Pago harbor water quality monitoring strategy, we look forward to the participation of your company.

Please contact me if there are any other questions, or if I can be of further assistance (goldstein.carl@epa.gov; 415-744-2170; fax: -1604).

Sincerely,

Carl L. Goldstein  
American Samoa Program Manager  
Pacific Insular Area Programs

cc: Togipa Tausaga, ASEPA

**submission and reporting periods are defined as standard calendar periods, January-June, and July-December. Annual submission and reporting periods are defined as standard calendar year, January-December.**

Your permit may describe reporting and submission quarters in a non-standard timeframe; however, reporting and submission quarters for completing and submitting DMR forms (Discharge Monitoring Report, EPA Form 3320-1) are based on standard quarters as noted above.

Included with the forms are *Instructions for Completing Preprinted DMR Forms (EPA 3320-1)*. Please read the instructions carefully. Forms sent to the EPA should be addressed as noted in the attached instructions.

Please do not alter any of the information printed on the forms. If you believe the forms contain errors or if you have any questions, please contact me at (415) 972-3767.

Sincerely,

Carl Goldstein  
Program Manager  
Pacific Islands Office (CED-6)

Enclosures